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AMERICAN AGRICULTURE NEEDS A NEW LAND POLICY [1]

NILS A. OLSEN
BUREAU OF AGRICULTURAL ECONOMICS

Land policies have a vital bearing on farm prosperity. No small part of the hardships suffered by farmers in recent years is due to Federal and State land policies, which stimulated unwise expansion of agricultural production. One may go further and point to our land policy as an important contributing cause of many of the recurring depressions in agriculture during the past century. Haphazard and planless land settlement is economically and socially a very costly process. Even when land of good quality was available and when agriculture was not highly commercialized, the human wastage and economic losses were enormous. No one has ever been able to measure this wastage, but any student of the history of agricultural expansion in the United States must be deeply impressed with the costliness of it and must be moved to regret that we did not develop statesmanship enough to promote a policy of planned expansion and settlement which might have been consistently followed from the beginning.

It is recognized that conditions in various countries differ widely and that the land policies suited to the needs of this country may not be suited to those of other lands, and vice versa. Broadly speaking, there are several important contrasting conditions which characterize the background of land

[1] This paper was read at the Institute of Politics, Williamstown, Mass., August 20, 1927.

policies in various countries. There are certain countries of very dense population in which the land problems are or recently have been complicated by the continuance of feudal restrictions which have held over from an earlier period. Land policies in states of eastern Europe in recent years have centered upon the elimination of these feudal restrictions and their results and the provision of a more liberal type of land tenure. This activity has gone hand in hand with efforts to make land available to those desiring farms. A second group of countries comprise those nations where feudalism and its residual restrictions have been largely swept away, but where populations are very dense and where therefore a primary object of land policies is to provide farms for those desiring them. Since land is scarce, the problem is to find farms for those who are on the waiting list, so to speak, and who eagerly desire to obtain them. In general, the countries of central and western Europe belong to this group. A third group includes those countries which are relatively underpopulated and have large areas of vacant land suitable for cultivation. The important problem of such countries is to attract immigrants, and their land policies center upon the opportunities for obtaining cheap virgin land of good quality as an inducement to immigration. Canada is in this group, and to a large extent, Australia and South Africa. Italy and France likewise are trying to attract European immigration to replace or supplement the native population in their African provinces.

It is obvious that the United States cannot properly be put in any of these groups. We never have had any important feudal restrictions in this country, and such few vestiges of feudalism as obtained a foothold in the early colonial period have been swept away for more than a century. We do not belong to the group of countries characterized by excessively dense population and therefore do not have a clamorous demand for farms. Indeed, it has been our problem of late to keep people from leaving the farms. Furthermore, it is clear that we have passed beyond the stage represented by the third group of countries. We no longer have an abundance of virgin land of good quality, which, coupled with sparseness of population and economic underdevelopment of the nation, might

justify the employment of land policies to stimulate immigration. In fact, we have recently adopted a policy of restricting immigration. Since this country, therefore, has conditions which are peculiarly its own, it is obvious that we cannot gain much by blind imitation of land policies in foreign countries where conditions are fundamentally different from those in this country.

Prosperity for Agriculture—The Goal of a Constructive Land Policy

What, it may be pertinent to ask at this point, should be the primary object of our land policy? Above all things, that policy should help promote a rural prosperity and culture which make living on the farm as rich and attractive as living in the city. It is not enough that the farmer produce the food and raw materials required for the sustenance of mankind; he must produce them at a profit. It is not enough that the farm afford the farmer and his family a place to live; it must be an attractive home with all of the advantages which make for culture and the highest type of citizenship. This is not a narrow class view of the problem; it is a national viewpoint which predicates national prosperity upon the economic and social welfare of all groups.

The prosperity of agriculture is partly dependent upon the land policy we employ, and conversely, the success of any land policy is largely dependent on the prosperity of agriculture. A prosperous agriculture cannot be achieved by overdevelopment and overexpansion, which injures not only established farmers but also new settlers. The tendency to agricultural overexpansion is almost world wide, and there is good reason to believe that cut-throat competition among farmers has been an important factor in making land settlement on a successful basis so difficult.

It is important to recognize also that the process of pushing agricultural expansion too rapidly tends to defeat its own end, if that end is the establishment of prosperous families on the land. It is true that there has been a sort of sentimental idea that what we really should do is to create self-sufficing farm

homes. The underlying thought is that there is such peculiar virtue in residence on the farm that the mere living on farms is of essential value not only to the dwellers themselves, but also to the nation as a whole. I shall not attempt to argue the question as to the advantages to the nation of a considerable agricultural population. It is probable that some of these advantages have been greatly exaggerated, but that we need a substantial agricultural population in order to have a well-balanced national life is freely recognized.

The important point is that in this day and age the idea of promoting residence in the country unless that residence can be maintained on a basis profitable to the family is to expect an impossibility and fly in the face of all modern tendencies. Our pioneer forefathers were willing to go into the wilderness and live from hand to mouth with little dependence on buying or selling and to endure extreme hardships. Even they, however, were looking forward to commercial production and to an increase in land values. Industrialization of the nation has put a premium on labor power, and men are not going to devote their time and strength to the maintenance of a crude subsistence based largely on direct consumption of farm products. Even in Europe, the peasants of the more highly industrialized countries are tending to go to the cities. This tendency is especially manifested of late in France which has so long had a large population of peasants living a semi-self-sufficing type of life. Furthermore, any policy of land settlement which involves the incurring of capital charges—and this is characteristic of present-day land settlement projects—necessarily calls for profitable farming to enable the individual to meet such charges. The phrase "self-sufficing farm homes," therefore, is meaningless unless it means "self-supporting economically."

Special Conditions to be Kept in Mind in Shaping Land Policies

Let us consider some of the special circumstances surrounding American agriculture that have a direct and vital bearing upon the problem of land policies.

We have recently emerged from the position of countries

which have found it desirable to employ land to attract immigrants. Consequently, we have on our statute books a number of laws embodying policies which have been left over from an earlier stage of our economic development and some of these policies are distinctly outworn.

For one thing, we still have our homestead laws, including the forest homestead act. It is widely recognized that such legislation is not only useless at the present time, but on the whole distinctly harmful. There remains little if any land in the public domain which is fit for farmers to take up under existing homestead laws and these laws serve at the present time merely to attract people to hopelessly impossible attempts to establish themselves on the land, while at the same time they interfere with the existing ranch industry in regions which are suitable only for that type of economy. The desirability of eliminating these measures from the statute books has been recognized by the Department of the Interior and in the case of forest homestead laws by the Forest Service. Furthermore, our continued adherence to the old policy of allowing the public domain to be used as a grazing common is generally regarded as exceedingly wasteful.

Our potential agricultural land not now utilized is at the same time both scarce and abundant, paradoxical as that statement may seem. It is scarce in the sense that we have no large area of potential agricultural land of good quality which does not require some form of reclamation to make it available —that is, either irrigation, drainage or clearing of stumps and brush. This condition has been changed somewhat of late by the development of methods of economically utilizing semi-arid lands.

On the other hand, our potential reserve agricultural land is abundant in the sense that we have a large area which is physically capable of being utilized for cultivation when economic conditions justify such use. It has been estimated roughly by the Department of Agriculture that in addition to the land already in cultivation there are upwards of 600,000,000 acres of land physically capable of being brought under the plow. Practically all of it, however, is either of low quality from the standpoint of fertility or available rainfall or requires some type of reclamation, and it is not likely that we

shall ever utilize for cultivation all of this vast area which may be considered physically capable of such use. Furthermore, with the increase of population a good deal of this potentially cultivatable land will be needed either for pasturage in farms or for forests.

Outside of the reserve land devoted to national forests and national parks and outside of the public domain suitable only for grazing under range conditions, we have no large area of land under public ownership that can be devoted either to forests or to farming. Therefore, our land policy must necessarily be determined in large measure by the fact that our potential agricultural land is now largely in private ownership.

Some of the agricultural land reserve is still owned in large blocks by private owners, such as railway companies, lumber, and mining companies, etc., but a very considerable proportion of it is already in farms. According to the preliminary report of the Census of Agriculture for 1925, the total area of land in farms comprises about 924,000,000 acres. Of this total area, 391,000,000 acres was in crops, including crop failure and fallow land. About 409,000,000 acres was reported as used for pastures, of which 115,000,000 acres was reported as plowable. It is apparent, therefore, that within the boundaries of existing farms there is considerable room for expansion in the area of land in cultivation, and it is quite probable that a very large part of our expanding demand for agricultural products growing out of increasing population will be met by utilizing more fully the available land resources now in farms. In some cases incidental reclamation on a small scale will be required, as, for instance, drainage of small tracts of wet land, clearing of stumps and brush, and in some cases the renovation of worn-out land. A considerable expansion of the area of land in farms has occurred in some of our cut-over timber regions during the past decade but many of these farmers have not progressed very far in the process of clearing the available land. This process, however, is going forward steadily and even during the five years between the census of 1920 and the census of 1925, a period of general depression in agriculture, it is reported that upwards of 4,000,000 acres were cleared and made suitable for cultivation. Furthermore, as a result of the large expansion in the

area of land in farms in the semi-arid regions of the United States during the past fifteen years considerable areas have been included within the boundaries of farms which have not yet been devoted to crops, but which will be gradually broken up and put in cultivation.

It is obvious that from many points of view it is much more economic to meet any demand for increased agricultural production by utilizing lands already in farm than by attempting to establish new farms, especially if the land to be included in the new farms is not advantageously located and of a quality greatly superior to that already in farms. The expansion of cultivation within the limits of existing farms has the great advantage that farm buildings and improvements as well as roads, schools, churches and other community facilities are already available. In fact, the utilization of land already within farm boundaries frequently is the means of expanding the income of existing farms without adding unduly to the overhead expenses of the farm business. It would appear therefore that we should thoroughly explore the possibilities of meeting our expanding requirements from this source before venturing upon other plans for increasing the number of farms.

This general point of view is strengthened at the present time by the fact that apparently our great activity in the past ten to twenty years in irrigating and draining land, combined with the existing depression in agriculture, have resulted in our having on our hands a considerable area of land in irrigation and drainage districts which is not fully utilized and in some cases not even occupied. The census of 1920 showed an area of nearly 7,000,000 acres in irrigation enterprises for which water was available but which was not irrigated, the percentage of unused land being about the same in the Government projects as in the others, and also showed more than 20,000,000 acres of land in existing drainage enterprises that was not classed as improved land. A recent study of typical drainage districts in the Mississippi Valley and the South Atlantic States made by the Department of Agriculture showed that less than 40 per cent of the land in these districts was in cultivation, and in a considerable number of projects little progress had been made in

bringing the land under cultivation or in even getting it occupied. For some time still these lands already in organized districts and not fully utilized afford a considerable opportunity for the expansion of agricultural production.

A most significant change also has occurred of late in the character of the demand for agricultural lands. The development of drouth-resistant varieties of wheat and corn and the invention or employment of labor-saving machines and implements such as the harvester-combine, sleds for picking cotton, two-row cultivators, power machinery and large horse teams, have tended to reduce greatly the cost of cultivation on a fairly large scale in the semi-arid regions and also have tended to place a premium on level or nearly level lands where such implements and methods can be most effectively employed. As a result of these changed conditions there has been a large expansion in the past five years in these semi-arid areas despite the depression. Preliminary results of the Census of Agriculture for 1925 indicate that in the states west of the tier of states including Minnesota, Iowa, Missouri, Arkansas, and Louisiana, there was a net increase in crop land of about three and a half million acres. This was mainly due to the expansion of dry farming. In the region east of the eastern boundary of these same states, there was a net decrease of nearly nineteen million acres. This tendency toward the expansion of agriculture into semi-arid regions is manifesting itself also in Australia and South Africa with the result that our humid areas are feeling the competition of this new type of agriculture, particularly in the cultivation of the staple crops. The reduction during the past five years of the area of land in farms as well as of the crop area in our humid farming regions should give pause to proposals for draining additional lands in humid regions and to extensive projects for bringing cutover lands into cultivation.

It is apparent that large areas especially in the humid regions are confronted with the problem of making important readjustments in their system of farming. It is doubtful, however, if in many cases these readjustments involve what may be called organized land settlement. They have to be carried out largely by individual farmers, and the

necessary changes must be determined by careful research in agronomy, animal husbandry, and farm management and must be promoted among the farmers by extension work and by the development of effective cooperation.

We have never had, and do not now have in the United States the problem of expanding our area of land in farms with sufficient rapidity to meet our requirements. Since our land is largely in private ownership, private and semi-private agencies in this country are constantly stimulating the expansion of the area of land occupied by farmers. The pressure of carrying charges and taxes naturally induces the owners of large tracts of land to make an effort to dispose of this land. As a result, it is probable that our agricultural area tends to be expanded too rapidly and not only that, but frequently in the wrong direction, so that lands are brought into farming which should not be so used but rather should be retained for forestry or for grazing under range conditions.

In addition to private agencies that are pushing land into use, Government agencies in this and other countries are actively engaged in stimulating the movement to the land. In our own country, not only do we still retain the old homestead legislation which has already been referred to, but also we have a reclamation policy which carries with it a subsidy to agricultural expansion. This subsidy consists indirectly in the aid supplied to various projects in the form of engineering advice, investigation and assistance, and directly in the form of exemption from interest on deferred payments for construction and to a considerable extent also in failure to collect payments due on construction. Time permits only casual reference to the activities of other countries in these regards, but it is sufficient to say that this process of stimulating the movement to the land is well-nigh world wide. Nearly all of the European countries have programs of reclamation which appear to be justified by the great pressure for land in those densely populated countries. Before the world war, Germany was actively engaged in the colonization of east Prussia with German farmers. England is the classical home of the policy of small holdings, yet since the war many of the countries of central and eastern Europe have developed policies for breaking up large estates and distributing them

in the form of small holdings. Even when these policies do not involve a formal subsidy they do involve various aids in the form of easy credit and other government services. This world-wide tendency to make it easy for men to become farmers and to occupy new farming areas has unquestionably been an important element in the tendency for agricultural returns to be low.

These forces for stimulating the expansion of the agricultural area continue to operate despite the fact that we have a surplus of farm products and that our agriculture is suffering from a world-wide depression which has continued for several years. Coupled with this tendency to overexpand the farm land area are other powerful influences which aid in depressing returns from farming below those of other occupations.

Prominent among these must be placed the tendency to increasing efficiency in the production of farm products. Measured by physical production per worker, efficiency in farming has been increasing at about the same rate as efficiency in manufacturing and mining. Physical production per agricultural worker in the United States doubled between 1870 and 1920. This tendency is illustrated in still another way by our increasing crop and livestock yields. In the past forty years the yield of corn in the United States has increased four or five bushels; the yield of wheat, two bushels; the yield of oats, three or four bushels and the yield of potatoes, twenty-five to thirty bushels. Cotton yields of course have shown an opposite tendency because of boll weevil depredations. There has also been a corresponding tendency to increased productivity of livestock. Students of the problem hold that the possibilities of elevating the general level of yields in this country are still very great. If the scientific knowledge of production which the United States Department of Agriculture and the State Agricultural Colleges and Experiment Stations have developed during the last fifty years were applied generally in farming, further burdensome surpluses would result without adding another acre to the cultivated land area. From the point of view of the individual farmer, increasing efficiency is always profitable and desirable, but it must not be overlooked that increasing efficiency may harm farmers as a

group if production is increased so much that gains made through efficiency are lost through decline in prices.

Improvements in transportation facilities in various periods of our history have had an important influence upon agricultural expansion. Perhaps the most striking illustration of such influence is the expansion of railroads after the Civil War, which opened up to settlement vast territories in the Middle and Far West. While all sections of this country have now been penetrated by the railroads, there are still large areas of land only slightly developed located between such railroad lines. The network of hard-surfaced roads which is creeping over the country, together with the growing use of the automobile and truck, undoubtedly will tend to extend the frontier of more efficient and intensive farming and open up possibilities of further expansion in production.

Then we must remember that agriculture is a highly competitive business. Not only does the American farmer compete directly or indirectly with over six million other American farmers, but he competes also with millions of farmers in foreign lands. It is estimated that about 90 per cent of the products marketed by farmers of the United States are directly affected by foreign competition. The world war seriously disrupted European agriculture, but Europe today, exclusive of Russia, has nearly recovered her pre-war production, while Canada, Argentina, New Zealand and Australia continue to increase the production of products which we also produce. The possible complete recovery of Russia and the further development of the agricultural resources of Canada, Australia, South America and South Africa bring the American farmer face to face with the prospect of increasingly severe competition in finding profitable markets for his products.

On the other hand, the farmer is confronted with the stubburn fact that the demand for many products of the farm is relatively inelastic, whereas the demand for the products of most industries seems almost insatiable. With the growth of populations and the increased industrialization of various countries, there will be, of course, a natural and normal increase in the consumption of farm products. It is also possible that we may be able to expand present markets for some

of our products or perhaps find new outlets in densely populated countries whose economic and industrial development is just around the corner. There are also possibilities for broadening the industrial uses to which agricultural products may be put. While these possibilities hold out encouragement, yet it is a fact that during the past several years, American farmers have had to contend with a relative contraction of their home market. The partial substitution of tractors and trucks for horses on farms and the rapid disappearance of horses in cities has greatly reduced the area of land required for the production of horse feed. It is estimated, in fact, that since 1920 the curtailed demand for horse feeds has destroyed the outlet for the products of nearly ten million acres of land. During the past forty years, there also seems to have been a gradual decline in the total per capita consumption of food in the United States. The principal reasons assigned for this are the substitution of machinery for manual labor, better heated factories and homes and the substitution of street cars and automobiles for walking. In other words, new and expanding wants absorb the constantly increasing output of industry, whereas the consumption of food products is definitely limited. The production of farm products per capita of total population in the United States is no greater now than fifty years ago, while the per capita production of manufactured commodities has doubled and that of mining has trebled in the same period.

These, in brief, are some of the influences to be reckoned with in the formulation of a constructive national land policy. In fact, these factors have been operative during the last several years and have contributed to the depressed condition of agriculture. Their influence is reflected in the reduction of the crop area in recent years. Between 1919 and 1924, the area of crop land is reported to have decreased a total of 13,500,000 acres, and since 1920 the net loss in rural population is placed at almost 3,000,000. There are a great many factors that have contributed to the depression in agriculture, which it is not my province to discuss at this time. Among these factors maladjusted and excessive production, resulting at least in considerable part from an overexpanded land area, has undoubtedly been an important one. For the

years just ahead, there seems to be no national need for reclaiming more lands. The evidence seems to indicate that the demand for an increase in the volume of production can more economically be met by more intensive use of lands already occupied. As increased food supplies are needed they will be called forth, at least for several decades to come, by more adequate prices. While we should have an eye to the well-being of generations yet to come, our first duty is to those who are now producing our food and fiber supplies.

Land Settlement Policies Suited to American Needs

In the light of these considerations, what should be our national land policy?

First and foremost, we need to develop measures which will prevent the present great reserve of potential crop land from being brought into use so rapidly as to cause chronic surplus of farm products. Indeed, with the outlook as it is at present, considerable land might well be taken out of cultivation. If the adjustments needed to place farming on a profitable basis are to be left to free competition, perhaps we should even take steps to stimulate the cityward movement as we did the back-to-the-farm movement before the war. The harm in the present cityward movement, of course, is that it is distressingly painful and costly and there is danger also that it may result in leaving on our farms those who are willing to accept a lower standard of living.

The outgrown homestead policy, with its stimulus to land settlement, should be abandoned. Some of you will say that it is now too late. Nevertheless, the old legislation on the statute books, particularly the 640-acre homestead act, may do still further damage by encouraging settlement during periods of pronounced agricultural prosperity.

Our policies with reference to the utilization of lands should be based on a thorough-going economic classification of available land resources, particularly in undeveloped or underdeveloped parts of the country. This implies a careful study of the physical and economic conditions that determine the best use of such lands. Not only would such a

classification of lands make it easier to develop an effective reforestation policy without encroaching on areas which probably should be reserved for farming or ranching, but it would help minimize mistakes in the selection of areas for settlement and also supply a sound basis for the development of an effective settlement policy. Even if no further steps were taken by public authority to improve the process of land settlement, there is no doubt that private agencies operating with honest intentions would avail themselves of such information in selecting areas for development.

On the basis of an economic classification of our lands, it would be possible to direct the utilization of available land resources as between farming uses proper, grazing, and forestry, in keeping with the interests of established farmers and the needs of the Nation. Our once extensive forest resources are being rapidly depleted. The area of our virgin timber, it has been estimated, has been reduced since the original settlement of the country from 822,000,000 acres to about 138,000,000 acres. While a second growth of timber, amounting to perhaps 264,000,000 acres, has since grown up, we are still cutting timber from our forests at a rate nearly four times the annual aggregate amount of timber growth. Although the use of structural steel and other substitutes will tend to lessen the drain upon our timber resources, nevertheless we are confronted with a growing timber scarcity which is reflected in the continuous and persistent increase in the price of lumber. It is therefore vital that we devote more lands to reforestation. Federal and State reforestation projects should be extended and adequate funds made available for the purchase of land of low agricultural productivity, where there is little prospect of success in farming but which would be suitable for the growing of forests. The burden of taxes on such lands is now often excessive and tends to discourage their utilization for the growing of forests. It is probable, therefore, that more favorable taxation and credit policies would tend to promote the use of inferior lands now in farms or likely to be thrown into farm use for the growing of forests.

Semi-arid and arid pasture lands now included in the public domain amount, roughly, to 141,000,000 acres. The uncon-

trolled open range, or public domain, furnishes a large part of the feed used in supporting the range livestock industry. The history of the range livestock industry in the West shows that under favorable conditions increased production tends to run much above a safe limit and thus to jeopardize the profits of favorable years by the resulting losses of one or two bad years. This fluctuation in production to a considerable extent is made possible by the existence of a large area of unoccupied public range, which is not under either private or public control. The competition to realize profits from this land in periods of high prices leads to an undue expansion on the part of established operators and also to the establishment of herds or flocks by new operators, many of whom have little or no investment in privately owned lands. It is desirable, therefore, that measures be adopted which will regulate the utilization of these lands in the best interests of all. Possibly some form of permit system comparable to that used in the national forests might be practicable.

Since large bodies of land are under the jurisdiction of both Federal and State authorities, it is highly desirable that a better coordination of Federal and State activities concerned with the administration of such lands and with the shaping of public land policies be effected, in order that there may be more unified action in controlling the expansion of the farm land area and in effecting the most economical use of agricultural lands. Without such coordination of effort it would seem impossible to bring about a unified program for the use of our agricultural resources.

It has already been pointed out that most of our land suitable for the creation of new farms outside of existing farming areas is under the ownership of private individuals, railroads, large lumber companies, mining concerns, etc. Furthermore, most of the activity in organized land settlement in this country is at present carried on by private initiative. Although there are some high-grade private land settlement concerns which pursue a fairly enlightened course in the process of land settlement, it is common knowledge that the business as a whole, as now conducted, falls very short of conforming to high standards of public service. In fact a large volume of land is sold by systematic deception.

It is important to recognize that at the present time the law of fraud and the courts give comparatively little protection against the exploitation of prospective settlers. The exploiting firms are sufficiently clever to keep within the letter of the law, and even where gross fraud is practiced, the average victim is so ignorant of legal procedure and business practice and so lacking in resources that he is unable to prosecute his case. While the Post Office Department exercises jurisdiction over the mails, it has not been found that that power has been exercised very widely to eliminate the prevalent practice of selling lands fraudulently. Furthermore, most of the harm is done not by concerns which violate actually the law of fraud under its present narrow interpretation, but by concerns which, though avoiding actual misstatement, manage by clever and subtle suggestions to lead the victim to purchase land which is unsuitable for farming, or to purchase it in quantities which are not favorable to success, or at prices which are excessively high—conditions which make for failure from the outset.

Not infrequently the land-selling agency itself is misled as to the possibilities of its own enterprise. The typical land promoter, characteristically an enthusiastic person who is likely to be carried away by his own enthusiasm, is very likely to be lacking in a broad perspective that would enable him to judge of the actual possibilities of successful agriculture in the project which he promotes.

Furthermore, the business of land settlement as conducted by private initiative, is subject by its very nature to all the evils of excessive competition. As already suggested the large area of physically potential agricultural lands which is in private ownership, subject to heavy carrying charges for taxes, interest and other expenses, results in a constant tendency to push such lands into use. The excessive competition leads to high pressure salesmanship and frequently compels the firm to appeal to a class of would-be settlers who are virtually lacking in capital and in promise as efficient farm managers.

Land settlement is an economic function that is vested with a large measure of public interest. It is a vital function and will be increasingly so when it becomes desirable and necessary to expand our agricultural area in order to meet the

needs of our increasing population. The State is also concerned with promoting equality of opportunity and particularly with promoting a successful and stable agriculture. A condition in which the movement to the land is subjected to the predatory activities of fraudulent or near-fraudulent land companies and to almost equally harmful and ill-considered schemes of land promotion and settlement should not be tolerated. Either the business of private land settlement should be raised to a much higher plane of efficiency and service or the State itself should take over the function.

How then can a higher standard of land settlement be developed while still maintaining the principle of private initiative?

In the first place, the State might seek to promote higher standards by merely providing a service agency to assist private land settlement agencies in investigating the possibilities of successful settlement and in supplying information to prospective settlers. It is my belief that such a policy would not get very far in meeting the situation. The well-intentioned private enterprises might avail themselves of such a service, but it would afford no protection against those agencies which are largely responsible for establishing and maintaining the low level of standards which now prevails in the business.

On the other hand, the Government might adopt a policy of selecting sound private land settlement projects for recommendation to prospective settlers. For such a policy to be really effective in controlling the methods of land settlement and promoting the security and success of would-be settlers, it would be necessary for the Government to attract to itself a sufficient volume of inquiries from prospective settlers to give it some measure of control over land settlement agencies. If a large proportion of the prospective settlers could be induced to turn to the Government for advice and assistance in locating themselves that very situation would give the Government a whip hand in compelling the private agencies to conform to higher standards in order to receive Government approval and recommendation. It is possible that a vigorous policy of advertising on the part of the Government, combined with the demonstration of actual service in aiding people to

select sound opportunities might be employed successfully to raise the general level of practice in land settlement enterprises. It is doubtful, however, whether such a policy would meet all the needs of the situation, particularly whether it would deal with the problem of over-supply and excessive competition.

Personally, I should prefer to deal with the problem by this method if it should prove feasible to attract sufficient demand from prospective settlers for assistance to enable the State to control the situation. If this should prove impracticable, however, the only alternative, while preserving the principle of private initiative, would be regulation under some form of licensing. I realize that the idea of regulation is repugnant to the average American and particularly that the idea of applying regulation to the business of organized land settlement would be likely to excite very active opposition and much antagonism by powerful agencies interested in the promotion of land. But it is entirely possible that we may be forced to come to this not only as the means of establishing a higher standard of practice in promoting land settlement, but also as a means of restricting the rate of expansion in the interest of a more prosperous agriculture.

The alternative to private initiative in land settlement subject to State influence and regulation is State promotion and participation in land settlement.

Government participation in land settlement might be merely partial as a supplement to private activity or it might be substituted entirely for private initiative in land settlement. One of the principal arguments for partial Government participation has been that the Government can develop "model projects" which will tend to raise the general level of private land settlement activities by serving as object lessons. Aside from the fact that the model settlement projects which so far have been developed by governmental agencies in this country are not noteworthy for their success, it is exceedingly doubtful that this method alone would tend to eliminate the abuses in the business of land settlement. The pressure of competition for the sale of land is so keen and the motives for adopting and employing a low standard of practice are so strong that merely providing a good example is not likely to

overcome these powerful influences. There are already in the United States a number of admirably conducted private land settlement projects, but these have not served to eliminate the bad practices of those agencies which are motivated by low ethical standards.

Sometimes the participation of the State is justified or is advocated for those types of land settlement projects which involve extensive reclamation even when participation in all types of land settlement is not proposed, and throughout the world State participation in reclamation enterprises is perhaps the rule rather than the exception. Such participation often is proposed because of the fact that the project involves not merely the preparation and settlement of land for agriculture, but also a number of other interests such as the development of water power and drainage and flood control on a wide scale. There are probably a few enterprises in every country of such magnitude and wide scope and involving so many interests, some of which are essentially public in character, that they cannot well be left to private enterprise. However, it should be noted that by far the greater part of reclamation in the United States has been carried on by private initiative. In fact, for the most part the more desirable opportunities were exploited by private initiative, to a large extent, leaving to the State the more doubtful projects. It is entirely probable that private initiative will take hold of legitimate projects which give some reasonable promise of success. The tendency, therefore, is to turn to the Government to build projects which private enterprise could not profitably undertake. There are unquestionably nations in the world so situated that they are justified in carrying on a public policy of reclamation, even at some loss. For instance, this may be the case in some of the European countries which are so densely peopled that they find it difficult to provide employment and means of livelihood for their people. Broad considerations of economic, social and military policy therefore may justify such nations in engaging in reclamation as a means of increasing the available land area. The United States, however, is not in this position. Certainly there is no economic justification for reclaiming swamp and other lands in

humid sections of the country, when such lands probably can not compete with other lands already in use.

In all except a few outstanding projects of great magnitude, it appears exceedingly doubtful whether there is any great outstanding national advantage in Governmental participation in reclamation. Private initiative, I believe, could be relied on to carry forward legitimate expansion in this regard, although private initiative in this respect, as in other forms of land settlement, probably requires some type of regulation. If Governmental participation in land settlement is scarcely justified in reclamation, it would seem to be even less justified in those forms of land settlement in which large scale reclamation is not involved. In short, the extensive participation by the United States, under its special circumstances and conditions, in the business of land settlement appears warranted only in case it should prove impossible to correct the evils of private land settlement activity by some form of influence or regulation.

The time undoubtedly will come when the pressure of population will make it desirable and necessary to bring into cultivation large bodies of land in the United States now producing little or nothing. It may then even be found necessary for the Government to take an active hand in helping to expand the farm land area. The production problem now confronting American agriculture, however, is not how to increase but how to reduce burdensome surpluses that depress prices below profitable levels. The adoption of a constructive land policy under which lands will be used as needed for the purposes to which they are best suited will be a long step forward in helping to place American agriculture on a profitable and stable basis.

AGRICULTURAL ECONOMICS IN EUROPE

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It has been my privilege during the past five years to visit a major portion of the institutions of higher education and other organizations in Europe actively engaged in developing the field of agricultural economics—teaching, research, or extension. These visits have afforded an opportunity for meeting and conferring with many of the leaders.

It is to be expected that since the economic interests of agriculture differ in various countries, the emphasis placed upon teaching, research and extension projects would reflect these differences. Nevertheless, the observer attempting to appraise the situation is struck rather forcibly by the wide variations in "keystone" activities. In certain countries attention is centered on one phase to the exclusion of all others.

In England the work had its origin largely in detailed cost accounting. "Costings" still receive the lion's share of attention. In Denmark, Switzerland, Czecho-Slovakia, Sweden and Norway, farm accounting in its simpler forms with a wide-spread application serves as a basis for research studies. Germany is noted for its development of the field of agrarian policies (Agrarpolitik). In this country farm management and farm labor also claim the attention of a goodly number of workers.

The agricultural economists of France, in a large measure, confine their attention to the philosophy of the subject. Rural Law and Legislation is a basic course.

Political events in central Europe, especially in Poland, Czecho-Slovakia, and Roumania have centered attention upon problems connected with the transformation of large estates into smaller properties—"land reform."

The work in Italy owes its beginnings to questions of farm valuation for taxation purposes. Since the "productive capacity" of the land is an important consideration in matters of taxation, Italy has developed to a high degree the technique of land valuation.

The American observer is struck with the general absence

of market and price studies in their specific application to designated products.

Farm accounting represents the phase of greatest general interest, and is one which at the same time enjoys a wide application. Since the results of farm accounting are for the most part applied to the solution of farm management problems that subject ranks second in importance.

Perhaps it would be more accurate to say that farm management is the subject of greatest interest and that farm accounting is its principal tool.

In practically all Europe, agricultural cooperation, and agricultural credit have demanded and continue to demand attention.

Indications point to France and Germany as the countries in which specialized attention was first given to those economic forces which directly affect the welfare of agriculture.

As early as 1854, Prof. Leonce de Lavergne of the Institute of Agronomy of Versailles gave a course in that institution on "Economie rurale." Of the nature of this course he wrote: [1]

"What will be—what should be this special course in Rural Economy?

"The examination which I have undergone, the judgment of the jury in nominating me after a public discussion concerning the nature of this branch of teaching, has decided that it will be a course of Political Economy with a special bearing on agricultural interests.

"Political economy, considered as a whole, is the study of general laws governing the production and distribution of wealth. Wealth may emanate from two sources: In this way two branches of political economy are formed, one dealing with the formation and distribution of wealth accruing from industry and commerce—Industrial Economy; the other dealing with the formation and distribution of agricultural wealth—or Rural Economy; we must devote ourselves to the latter, without losing sight of the general principles dominating both, and which are the same for both."

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[1] Journal des Economistes. Aout. 15, 1854. p. 181.

The successors to this pioneer have not taken advantage of the "momentum of an early start." The courses in France today deal more with the theory or philosophy of the problem than with their statistical analysis. The reason for this is evident. The progressive development of this field of study depends, in a large measure, upon the collection of a considerable body of data from original sources, and from sources discouragingly small and numerous, such as the farmer, the warehouseman, the merchant, the carrier, the farm laborer and the consumer with their varying desires and whims. The collection and analysis of this type of information require organized effort supported by a healthy research fund. Agricultural Economists in France have no such fund. Research in this field depends upon the inclination and energies of the individual. It is a side line carried on at times when the worker is not occupied with his major task.

Germany merits the distinction of being a trail breaker. For nearly a century "agrarian policies"—Agrarpolitik—has held the position of an accepted university course. Economic theory concerning the relation of agriculture to statescraft has long been an object of attention.

Farm Management, "Landwirtschaftliche Betriebslehre," is of more recent development. It is only within the past twenty-five years that a body of classified data has been assembled which is sufficiently large and sufficiently accurate to serve as a scientific base for establishing economic principles regarding management [2]

An interesting and recent development in Germany is the work being done in the field of farm labor. The Germans are enthusiastic followers of Taylor, the American efficiency engineer and author of the "Taylor System." In America the Taylor System is accorded little importance in its application to agriculture. It is exclusively of interest to industry. But in European countries with their large groups of farm wage earners and gangs of field workers, the study of efficient labor methods promises to prove fruitful. The University of Goettingen, the University of Leipzig, and the Farm Labor Ex-

[2] It should be pointed out here that this statement has been challenged by an European Authority. It is maintained that Farm Management as a science in Germany is of longer standing than the above statement indicates.

periment Station at Prommritz, are leaders in promoting farm labor studies. [3]

The great difficulty in studies of this sort is to eliminate the variables in order to make comparisons. The most inconstant of all variables is the human element involved. Hence the standardization of methods of procedure and research technique is of the greatest importance. While the farm labor problems in the United States have little in common with those of Germany, one is inclined to believe that American workers in farm labor fields could profit by exposure to the research methods employed by the German specialists.

Farm accounting on an organized basis had its beginning with the establishment of the first office for that purpose in Leipzig in 1872. But it was Prof. Laur, through the work of the Swiss Farmers Union (L'Union Suisse des Paysans), who set the example for its extended use as a method of obtaining research material for indicating the economic status of a nation's agriculture.

His accounting activities were begun in Switzerland in 1899. The beginning took the form of inviting ten farmers of different regions to come together under the direction of the Union for the purpose of receiving a three-day short course in farm accounting, it being understood that each of these men would keep accounts of their farm activities for one year according to the methods of instruction, and submit their books to the Union for analysis.

Since 1901 this course has been given to classes of from 120 to 130 farmers each year. Up to March, 1925, the Union had secured 6,944 usable yearly accounts by this method. On an average each participant submits accounts for three years. Three of the 130 who took the course in 1901 are still furnishing records.

Denmark is also a leading exponent of the farm accounting method as a research tool. But here the system for promoting the keeping of accounts by farmers differs from that of Switzerland. In Denmark the accounts are kept by paid employees of local farm accounting societies. These societies

[3] Broadly speaking, labor research programs deal with the following projects: 1. The psychology of management—the handling of labor. 2. Analysis and standardization of tasks. 3. The proper tool for the task. 4. The place of work. 5. Systems of payment.

grew out of and are not unlike cow-testing associations in their form of organization.

The person employed to keep the records is called a "consultant." There are now in Denmark about sixty agricultural bookkeeping organizations with over one hundred paid consultants.

In return for the assistance given by the consultant who is furnished by the society, the members pay a contribution to the society. These fees cover actual expenses. They range, according to the size of the holdings, from forty-five to one hundred Danish Oere [4] per hectare. Generally, membership of the clubs is such that one consultant is able to visit the farms of members as often as is required. However, several clubs with a large membership—more than fifty farmers—employ an assistant bookkeeper.

At the present time the accounts are divided into two classes: (a) Financial records, and (b) More detailed records classified according to the different enterprises of the farm. One consultant can open, close and control about fifty Class A accounts, and about twenty Class B accounts. Most of the farms adopt the simpler system.

In 1916 the Bureau of Farm Management and Agricultural Economics was established. Its task is to conduct researches based upon the data furnished by the local accounting societies. Its first work was to formulate and secure the adoption by the local societies, of a uniform system of accounting in order that the records of the farms in one district may be placed upon a comparable base with the accounts of farms of other districts.

It is interesting to note that a movement exists to extend the principle of uniformity in farm accounting to the international sphere.

The International Economic conference held in Geneva last May passed resolutions containing the following:

"The fundamental importance of agriculture demands an exact knowledge of its economic situation. Such knowledge can only be gained satisfactorily through a methodical analysis of farm accounts. * * *

"To achieve this purpose, it is desirable that in the different countries an exact system of farm accounting should be form-

[4] One crown, or one hundred oere, is worth around 27 cents.

ulated. These accounts should be drawn up in every country as simply as possible, but by the method insuring the greatest guarantee of accuracy, so as to obtain comparable results for the different kinds of agricultural enterprises in any country. * * *

"It is therefore recommended that a committee of experts be established charged with the study and preparation of the requisite measures." [5]

In one respect there is a striking similarity in the organization and development of agricultural economics in Denmark, Switzerland, and Norway. In these three countries the teaching is done in the superior agricultural school, and the research and extension branches are in the hands of a farmer-controlled organization. Strangely enough in each of these countries one man gives the courses and supervises the research, although the two lines of work are performed in connection with separate institutions. [6]

An added similarity is that the research and extension activities are based upon farm accounting records.

The Institute of Agricultural Accounting and Rural Economics of the Republic of Czecho-Slovakia at Prague—an official organization—deserves especial mention for its promotion of accounting practices among farmers, and for its scientific research in the economics of agriculture.

In 1925 the Institute held 149 two-day courses in farm

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[5] This action by the Conference is based in part upon the following resolution introduced by the American Delegation.

"In view of the importance of having comparable data concerning the economic conditions of agriculture in the several countries of the world, all countries are urged to collect accurate data as to prices producers receive for their products, costs or expenses of production, and income from agriculture. In order that comparable data may be collected in different countries, it is suggested that the International Economic Conference requests the International Institute of Agriculture to arrange in the near future for an international conference of agricultural statisticians to consider standard methods for—

(a) Collecting, compiling, and presenting price, cost or expense of production, and income data, and

(b) Constructing comparable statistical series and indices of production, prices, wages, trade, income, and purchasing power of agricultural producers."

[6] In Denmark, Prof. O. H. Larsen, furnishes the guiding mind. He is Professor of Rural Economy at the Royal Veterinary and Agricultural College at Copenhagen, and at the same time is director of the Bureau of Farm Management and Agricultural Economics (Det Landøkonomiske and Driftsbureau)—a farmer controlled organization.

In Switzerland the connecting link is Dr. Ernest Laur. He is Professor of Rural Economy in the Agricultural Section of the Polytechnical School at Zurich. (Eidgenössischen Technischen Hochschule). He has occupied this chair since 1905. He is also Director of the Swiss Farmers' Union. (L'Union Suisse des Paysans) which position he has held since its founding in 1898. Teaching in this field is done at the College in Zurich, and the research and extension activities are located and directed from the headquarters of the Union at Brugg.

In Norway, Mr. Borgedal teaches the courses in agricultural economics in the college at Aas, and is in charge of the accounting section of the Royal Society for the Welfare of Norway. (Det Kgl. Selskap for Norges Vel.)

bookkeeping. Each year this organization balances and analyzes for research purposes about 400 accounts of these participants. In addition, it keeps a number of cost accounts for farmers who furnish each week detailed records of their economic activities.

One of its most important research projects now under way deals with "The Economic Consequences of the Land Reform." The Republic has taken over some 1,200,000 hectares of land from large estates. Of this some 700,000 hectares have been broken up into small farms. The purpose of the present study is to ascertain, after a trial of four years, the productivity of the small farms as compared to the productivity of the same land when operated as large estates.

As has been stated previously, in England detailed cost accounting is the most important line of research activity. The Agricultural Economics Research Institute at Oxford from its beginning has made "costings" its chief occupation. The war, with its price-fixing policies, increased the importance of this class of data.

Immediately after the war there was established an Agricultural Costings-Project conceived on a large scale and operated jointly by the Ministries of Food and Agriculture. This project had been in operation only about a year when it fell a victim to economy measures. It was discontinued in 1921. Nevertheless, its work is being carried on through the agricultural economic advisory officers established in twelve different centers. The activities of these officers supported largely by the Ministry of Agriculture, is confined almost wholly to "costings."

At Oxford there is a definite realization that the restricted number of farms [7] that can be handled by the "costings" method seriously limits the application of its results. The Institute has during the last few years hesitatingly experimented with other research tools, such as the collection of farm financial records and the survey, which methods furnish a broad base for generalizations even though less exact in details than "costings" figures.

[7] The Economic Advisory Officers with their two assistants in each of the twelve districts seldom handle on a complete costings basis, more than twenty-five farms.

At present, the Institute is torn between the love of "costings" exactness, and the necessity of collecting a more voluminous body of data on the economic status of farming.

Indications are not lacking that the public interest in costing data may in itself prove to be an embarrassment to the development of the general field of agricultural economics. Costing data may serve as an important indicator of the economic status of agriculture, and as a guide to farm management practices. But to permit emphasis to be placed on their use as an instrument for the control or influence of price is likely to prove disastrous.

England is deserving of recognition as a present day leader in organized research in the general field of agricultural economics, notwithstanding what might be termed an ardent love for "costings." The Agricultural Economic Research Institute at Oxford founded in 1913, is the coordinating center. Recent large grants to the Ministry of Agriculture and Fisheries have given research in this field an added impetus.

Unfortunately the teaching of agricultural economics in colleges and universities occupies a rather doubtful position. Its relationship with established courses is not a particularly happy one. As one of its leaders has aptly said:

"It is looked at askance by both agriculturists and economists. To the former it is often no more than just 'another subject for the curriculum,' the importance of even use of which they are more or less doubtful. To the latter, it gives the impression of being a hybrid of technology and social science whose products have no complete validity in either sphere."

This state of affairs is not difficult to explain. Agricultural economics is a new branch of educational endeavor. Just as agriculture and other branches of applied sciences had a difficult time in breaking into the exclusive circles of schools emphasizing classical studies, so it is with a new science, none too well defined, in gaining acceptance into the ranks of established courses.

In a way, the agricultural economists themselves are at fault. They have failed to define the scope and bounds of their field. They have neglected to build up a "philosophy" or to

harmonize their methods of work.[8] For the most part, those engaged in teaching and research activities have entered the field by avenues other than specialized training in agricultural economics. The training of the present workers has been largely that of experience. This method has its merits but it is admittedly an expensive one when measured in terms of time and casualties.

As has been stated, agricultural economy as developed in Italy places an emphasis upon land valuation. This comes from the fact that the system of property taxes and taxes on agricultural incomes is based on the principles of the "Milanese Census" of 1718. The characteristics of this census was the measuring and mapping of each property as a basis for its valuation for tax purposes. This system has since been developed into a complicated and intricate process of measuring and weighing sources of farm incomes. Its application calls for trained minds. Land valuation approaches a profession. The underlying principle of the procedure is that of eliminating the necessity on the part of the taxpayer to declare values. The intent is to place this question on a basis of scientific ascertainment by the Government.[9]

No summary on the development and status of agricultural economics in Europe can fail to note the importance of agricultural associations as research and extension agencies. Throughout Europe these associations perform many of the educational, research and extension functions ordinarily performed by public agencies in the United States. An example or two will suffice.

Reference has already been made to the Swiss Farmers' Union. This organization unites all cooperative interests in Switzerland. It is a federation of federations. It speaks for the agricultural interests of a nation.

The work of the Union is divided into two separate and distinct categories. The union proper is a propaganda or-

[8] The writer is well aware that this criticism is not applicable to England alone. Other countries including the United States are hosts to the same situation in varying degrees.

[9] Those desiring to delve into the theories of land valuation as developed in Italy are referred to:

La Terra e l 'Imposta, by Prof. Luigi Einaudi. Annali di Economia. Nov. 1924. No. 1. Vol. 1.

Trattato di Stime Rurali, by Prof. Oreste Bordiga. Vol. I, 1923. Vol. II, 1925.

ganization. It represents the farmer in placing his interests in a favorable light before the public and before the lawmakers of the country. This portion of the organization is vitally interested in matters of legislation and in questions dealing with the formulation of commercial treaties. It is also actively concerned in promoting and strengthening the cooperative movement.

The other division of work is known as the "Secretariat." This is a research, extension and service organization. It conducts farm accounting schools, analyzes the data collected on hundreds of farms throughout the country by the accounting method, and makes special economic inquiries.

The Secretariat endeavors at all times to know the economic conditions of Swiss agriculture. So reliable has been its work in this field that the government has turned over to it the task of compiling agricultural statistical information for official use.

There can be little doubt that the success of the propaganda division owes much to the fundamental and accurate data furnished it by the Secretariat.

For research, extension and service purposes the Secretariat is divided into five divisions:

1. Office of Research on the Profitableness of Agriculture.
2. Office of Price Information.
3. The office of Land Valuation.
4. Office of Construction of Agricultural Buildings.
5. Office of Health and Accident Insurance.

The paid staff of the Secretariat has increased from that of Director and Assistant Director in 1898 to 61 persons in 1924. This does not include the numerous designated correspondents and agents throughout the country (hommes des confiances).

The most influential farm agencies [10] in Europe from the standpoint of economic research and extension activities are the agricultural chambers as they exist in Germany, Austria and Hungary. Those of Germany are especially strong and active.

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[10] The Belgian Farmers' League (Boerenbond Belge) and The German Agricultural Society (Die Deutsche Landwirtschaft—Gesellschaft) should be mentioned in this connection.

The Chambers of Agriculture are a unique mixture of the private and the official in one organization. They are partially official in character although essentially free associations of farmers.

In this respect they are not unlike our Farm Bureau Federation in those States where the local federations are built around and are dependent upon the county agricultural agent—a public employee.

The Chambers are official in that they have the power to levy a land tax upon all farmers of the district, and this tax is collected by the revenue officers of the State. Furthermore, the Minister of Agriculture is closely associated with their fiscal activities. He can, for instance, veto an assessment rate, if he believes it to be too high. The legal intent is that the Chambers shall work in close harmony with State and Federal officials on matters directly affecting agriculture. The officials in turn are compelled by law to consult with the Chambers in the formulation of agricultural policy.

On the other hand, the Chambers are free agricultural associations in that their controlling bodies are elected by the agricultural classes. Each Chamber elects its own officers. The president must be a farmer. He serves without salary. He appoints, with the approval of the Chamber, the employed staff.

The Chambers meet at irregular intervals. They must meet once each year to formulate a program and adopt a budget. The usual custom is to divide the members into standing committees.

Some of the larger provinces have a central organization. All the Chambers are united in a national federation, known as the German Agricultural Council.

The activities of the Chambers are numerous and varied. The Prussian law enumerates the following functions:

1. The safeguarding and representation of agricultural interests, in relation to economic, commercial, or fiscal policy.

2. The increase of agricultural production in all its forms (particularly arable farming, growing of forage crops, production of seeds, improvement of the soil, stockbreeding,

dairying, agricultural industries, provision of power for agriculture, exhibitions of farm produce, etc.

3. Collaboration with state institutions for agricultural purposes, particularly in respect to agricultural insurance and home colonization.

4. Collaboration in respect to rural housing and the valuation of rural property.

5. Preservation and furtherance of the institutions already in existence in the towns for the improvement of the conditions of rural classes, together with the formation and administration of new institutions having the same objects.

6. Promotion of the economic disposal of agricultural products and collaboration in the fixing of prices, especially market prices.

7. Collaboration in the placing of farm labor, and for the standardization of the conditions of labor, of emoluments and wages of farm laborers on the basis of the representations valuntarily made by employers and laborers.

8. Promotion and extension of agricultural instruction, of experimental and research institutes.

9. Collaboration in everything tending to ensure the food supply and in the supervision of the trade in foodstuffs.

In carrying out these functions, the Chambers conduct experiment stations, hold short courses, and issue publications.

Some of the Chambers have an annual budget as high as $1,000,000 and employ a numerous staff. One chamber has three hundred and fifty employees.

One need not be surprised if in Germany the Chambers continue to take over numerous agricultural, educational, research, and extension functions. Their budgets grant to them a position enjoyed by few other educational and research institutions.

FORECASTING CATTLE PRICES

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This article represents primarily a report on an attempt to forecast the prices of fat cattle for a few months in advance. It is necessary first to describe the nature of the phenomena studied and the peculiar conditions which prescribe the methods to be used. In accordance with these conditions we must then select data which stand in certain relationships to the prices of cattle and develop a method capable of discovering their significance for the cattle prices of the future dates under consideration. Next, the method needs to be applied and its results examined critically in comparison with the actual prices which it was attempted to forecast; the question of the dependability of the relationships found in other periods of time must be considered. Finally something will need to be said about the application of the results to practical price problems.

Nature of the Phenomena Studied

It would seem that more attention might profitably be given in our discussions of economic theory to the nature and the effects of the factor of time on price and other economic phenomena. This might be expected to follow up the suggestions already found in such fertile works as Alfred Marshall's Principles of Economics. This is particularly true in any attempt at forecasting because the forces which result in our prices require varying periods of time for the accomplishment of their results. The nature and the amount of their effects depend on the length of time the forces have been in operation.

If the price of corn rises we expect forces to be set in operation which after a few months will result in a rise in the prices of cattle also to a new level. Here the change in the price of cattle is nearly all in the same direction as the movement in the corn price. But all influences do not have such simple or direct results. In the case of an improvement in the condition of the western ranges, such as results

from a rain, the first effect is likely to be a rise in the cattle price; cattlemen who were about to sell hold back stock while it puts on additional weight. Following this, however, we may normally expect a decline in price, reaching its lowest point in about three months. The cattle which were held back reach the market along with those which become ready for sale in the meantime. Further, these cattle are all heavier than they would otherwise have been if the improvement in the ranges had not occurred. In this case the same event has had directly opposite effects at different intervals after its occurrence.

A price may be regarded as one of the elements in the economic situation or equilibrium existing at a given time. But it and the other elements of the situation have been brought about by the operation of various forces set in action by such events as those just mentioned. These forces may be considered as tending toward a stable equilibrium. But before such an equilibrium can be attained other events occur and accelerate or retard this process of maturity. Thus we have a continuous flow of forces, and if we are to understand the prices we must direct our efforts toward comprehending this dynamic flow itself. Simply to study its unconnected cross-sections is to miss its very essence.

With these considerations in mind we see that the events which compose a given economic situation are developmental phases in the operation of forces already in action. Some of these seem to lead towards some one of several possible alternatives so that it is not possible to foresee the outcome. Others seem to lead towards more or less clearly defined results. It is with the latter type that we are concerned in our forecasting problem. But we cannot deal with nor perceive forces except through their manifestations in events.

The forecasting problem thus becomes one of observing chains of events. We need to select from among the mass of economic phenomena those which are most regularly associated at a later date with the series of events we are studying, that is, with cattle prices.

It is not necessary that these series be demonstrated to exert a causal influence on the cattle prices but only that they be regularly associated with changes in these prices.

Our knowledge of causation in this respect is uncertain, and it would obviously be impossible to include in any practical formula all the causal influences, even if they could be found. Further, the statistical devices we are forced to use do not measure causation but only regularity of occurrence.

Next we need to ascertain the periods of time which ordinarily elapse between the observed phenomena and subsequent changes in the prices, as well as their relative magnitudes. In neither of these do we find complete regularity. Also the prices which we are trying to forecast will be the composite outcome of several lines of influence. Hence, to increase the dependability of our forecasts we need to combine the relationships of several series believed to be associated with these various lines of influence.

Selection of Series Related to Cattle Prices [1]

An effort was made to obtain series related to three general groups of influences on cattle prices, first; the demand of consumers of beef and the general business activity which determines their buying power; second, competitive meats; and third, the influences which through costs or otherwise influence the supply of cattle.

For the first purpose the index of ten sensitive commodity prices, as reported in the Harvard Economic Service, was used. It was found to move four months ahead of cattle prices in the period 1922 to 1926. When monthly changes in this series were correlated with corresponding changes in the cattle price series four months later a correlation coefficient of +.26 was obtained.

It was thought that the prices of industrial stocks might prove even more sensitive. This series when correlated with cattle prices three months later gave a coefficient of +.24 but further study made it seem unwise to use it because the lag was by no means uniform and varied from two to four months.

Since beef is sold in competition with other meats it was

[1] For more complete discussion of the relationships between cattle prices and other series the reader is referred to Research Bulletin 101 of the Iowa Agricultural Experiment Station. This takes up the series discussed here at more length as well as several others not used in this particular study.

desired to include the price of hogs as the principal one of these competitors. But it was found that hog prices are less sensitive than those of cattle and follow rather than precede them. The price of hogs, when correlated with cattle prices of the same months yielded a coefficient of +.14. When a lag was introduced, however, the correlations were negative and seemed to have no constant significance. This does not fulfill the conditions required of a satisfactory forecasting formula. Thus while the hog prices may help to explain the current prices, they can hardly be used in forecasting.

The third group of influences had to do with the supply of cattle. For this the price of corn and the feeder cattle margin proved the most valuable, since they indicate to the prospective cattle feeder something of the profit which he may expect and therefore stimulate him to increase or decrease the number of cattle fattened.

The price of corn showed a regular correlation of +.33 with the cattle prices six months later. The explanation of this particular period of lag lies in the fact that this is about the usual length of the feeding period so that the beef supply may be expected to increase or decrease about six months after the price of corn falls or rises.

The feeder cattle margin which indicates the spread between the price of fat cattle and that of feeders, is acknowledged to be one of the series more closely related to the prices of cattle. But for the period of 1922 to 1926 it was not possible to obtain what might reasonably seem the normal relationship because of temporary conditions. The most significant lag for this series seems to be six months. But correlation with cattle prices at this lag gave a coefficient of only −.04. In this gross relationship the influence of the margin was partly hidden by cross influences. In the multiple correlation analysis described below these cross influences were removed at least in part so that the margin had a greater effect in the forecasts.

The condition of the western ranges was useful as anticipating something of the weights at which the range cattle are likely to be started to market as well as the probable time of marketing as explained above. When the condition of the ranges was correlated with the prices of cattle in the

same month, a coefficient of +.18 resulted. When a lag was introduced and the range condition was correlated with the prices three months later the coefficient was −.21.

A somewhat similar series was developed to reflect the condition of the pastures and forage crops in the principal cattle feeding States. This indicated the supply of feeds for use supplementary to corn both in the fattening of cattle and in the raising of cattle in the Corn Belt. This series showed a negative correlation until correlated with prices five months later. When correlated with the prices seven months later the coefficient was +.27.

In estimating the current prices of cattle the actual receipts at the public stockyards may be expected largely to take the place of the series influencing the future supply. The net receipts of cattle at the 64 markets reported by the Bureau of Agricultural Economics of the U. S. Department of Agriculture, showed a regular relationship with cattle prices in the following months. When correlated with the prices two months later a coefficient of −.22 was obtained. When the lag was increased to three months the coefficient became +.22 and at four months it was +.20. The stock of cattle in the country and available for sale may be compared to a reservoir. The greater the number taken out for sale in one month the smaller is the number remaining to be sold in the few months following. Hence heavy receipts which depress the price at a given time are likely to be followed by lighter shipments and higher prices about three months later.

Combination of Influences Into Their Composite Effect

After discovering the relationships between these series and the cattle prices the next problem is to combine them into their composite influence on or association with the cattle prices. Of the various methods which might have been used, it seemed that a modification of the method of multiple correlation promised the best results. [2] The methods of correlation were not devised for use with time series but for

[2] For a discussion of the method of multiple correlation see Kelley, Truman L., *Statistical Method*, 1923, Chap. XI. Also see bulletin by H. A. Wallace and George W. Snedecor on *Correlation and Machine Calculation*, Jan., 1925, published by Department of Mathematics, Iowa State College. An interesting application and an explanation of the method may be found in U. S. Dept. of Agri., Dept. Bulletin No. 1300, Jan., 1925, by Sewall Wright, on *Corn and Hog Correlations*.

data of a widely different sort, chiefly for measuring the associated deviations of biological forms from their norms. Most economic data are a decidedly different sort; and in time series a further disturbing factor already suggested, enters in the form of changes in the series from the passing of time, so that the items measured are not random and representative samples, but unique items dependent for their magnitudes on situations which will not be repeated except in part. [3]

It the use of the multiple correlation method here is to be justified it must be on the assumption that the forces which it measures in the time series continue to operate on the price in question with essentially the same influence as discovered in the period studied, and that the price situations analyzed by the correlation problem do repeat themselves at least in their essential characteristics. In the absence of a better method, if we are to proceed with the analysis of the problem at hand, we have no choice but to do so on this assumption and then to apply such tests as we may to the results obtained.

Application of the Method to the Forecasting of Current Prices

The first application of the method outlined above is naturally to attempt to estimate the current prices with it, that is, to approximate the prices from data available currently, and thereby to test its adequacy under favorable conditions.

The first step, then, was to work out a multiple correlation problem to ascertain the composite influences on monthly changes in the cattle prices of changes in related series, expressed as percentages of their respective secular trends corrected for seasonal variation.

The formula obtained for estimating current cattle prices was: [4]

[3] See discussion of this point by Persons, Warren M., in *"Handbook of Mathematical Statistics,"* edited by H. L. Riets; 1924.

[4] This formula corresponds to the regression formula on page 20 of Wallace and Snedecor's bulletin referred to in note 2, but with three important differences, first, the items e, g, etc., correspond to $(A\text{-}M_a)$, $(B\text{-}M_b)$, etc., second, the mean of the X-series as used in the Wallace and Snedecor formula has been replaced by S_x the series of ordinates of secular trend corrected for seasonal variation; third, the T_x factor, representing the percentage deviation forecast for the preceding month, is used since each forecast represents an increase or decrease from the month before.

$$X=S_x+T_x+.43e-.10g+.01h+.10i-.03p+11q+.02r. \quad (1)$$

By the formula just derived we may estimate the current cattle prices as we might expect them to be if the factors included represented the only influences making for deviations from the corrected secular trend during the period on which the formula is based and if the lags used were the right ones.[5] These estimates are shown graphically in terms of the secular trend in Figure 1. Figure 2 shows them in terms of dollars and cents.

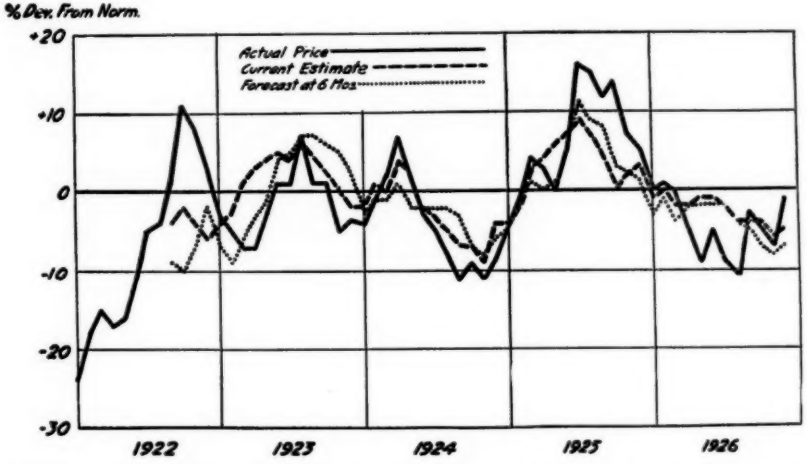

Figure 1. Cattle prices estimated from current data, and forecast from data available six months in advance, as percentage deviations from the secular trend.

It will be observed that of the 47 months there are 12 which vary from the actual prices by more than five per cent of the ordinates of secular trend. Of this number two show a variation of over eight per cent. The average difference

[5] The series used in these formulae and the number of months in advance of the prices to be forecast are as follows:

Designation of Series	Formula	Months lag: (1)	(2)
e. Ten sensitive commodity price index		4	6
g. Net cattle receipts, 64 markets		2	–
h. Price of hogs		0	–
i. Price of corn		6	6
p. Feeder cattle margin		6	6
q. Condition of western ranges, index		3	–
r. Condition of corn belt pasture and forage		7	7

between the actual and the estimated prices is 3.7 per cent. The standard deviation of these differences is 4.7 per cent,

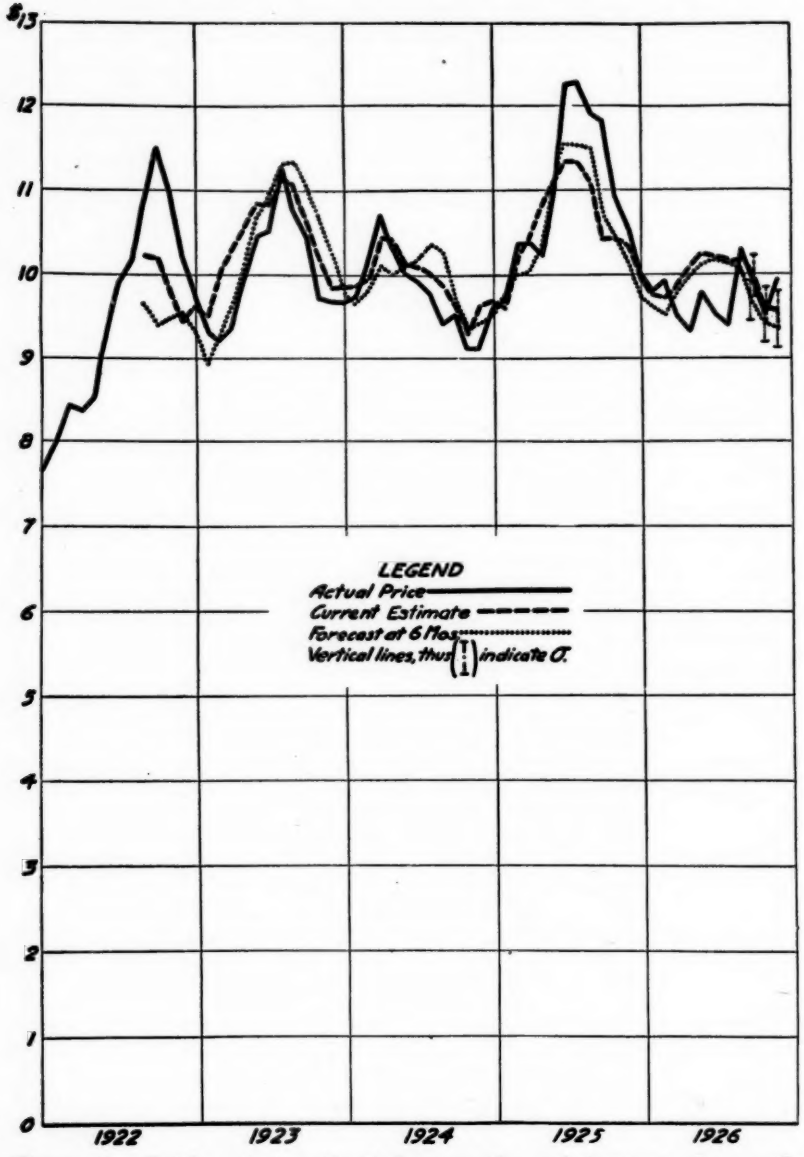

Figure 2. Cattle prices estimated currently and forecast six months in advance.

or just under two-thirds of the standard deviation of the actual prices from the secular trend.

Another test of the advantage gained by the use of the forecasting formula was obtained by correlating the estimated deviations from the secular trend with the actual deviations. This yielded a correlation coefficient of +.61 as compared with +.33 the highest of the seven coefficients which went into the formula.

Forecasts Six Months in Advance

For forecasting at six months the list of factors was cut down to four. Of the three which were dropped from the list used in the current formula two were of use in forecasts at two and four months but added little or nothing to the six months' forecast. These were the condition of western ranges, and the cattle receipts at 64 markets.

The formula for forecasting at six months was:

$$\overline{X}=S_x+T_x+.59e+.13i-.01p+.01r. \quad (2)$$

The results are not greatly inferior to those obtained in the current forecasts. The average difference between the actual prices and the forecasts was 3.8 per cent of the ordinates of secular trend. The differences exceeded 5 per cent in 11 months out of 47, and of these, 2 differences were greater than 8 per cent. The standard deviation was 4.5 per cent of the secular trend. The coefficient of correlation between the prices and the forecasts was +.70.

Possible Improvements in Forecasts

A few comments on the possibility of further improvements in the forecasts may not be out of place. First the forecasts made at six months by a formula based on four factors were practically as satisfactory as the current forecasts based on seven. The three additional factors were not so closely related to the cattle prices. This points to the very reasonable conclusion that the value of the formula

does not depend on the number of factors which are in some way associated with the cattle prices, but on the degree of that relationship in the factors used. Hence a further refinement of the data promises more than the addition of more factors.

However, the further refinement of the forecasts is likely to become increasingly difficult. The forecasts refer to monthly average prices for 1200 to 1500 pound steers at Chicago. The price of this class varied by more than the average difference of 3.8 per cent between the forecasts and the prices in most of the months covered. The weekly average frequently changed by as much as this, and the daily range of price within the class was generally several times this amount.

It should be remembered that there are certain shortcomings of the data used and of the period covered which make very close forecasts difficult. It is not easy to obtain statistical data which accurately represent the influences it was desired to include. In the second place, the series were selected primarily for their value in forecasting several months ahead. Had it been desired primarily to explain the current price movements other selections would have been made. Third, the general activity of business, which is only partly represented in any of the series used, seems to have an influence on cattle prices.

It was thought that the price of industrial stocks would be of value here, but this series introduced such defects into the results that it semed advisable to omit it. The lack of a series to fill this place seems to be responsible for a good deal of the discrepancy between the forecasts and the actual prices in 1925 and some of that in 1923.

Finally the early part of the period covered, that is 1922 and part of 1923, was an unusual one. Influences resulting from the economic upheaval of 1920-21 seemed still to be at work. Accurate forecasting in these years would therefore seem unlikely. Also these abnormal data entering into our forecasting formula might be expected to impair its value in more normal periods as well. Let us test this consideration by means of a formula from a more normal period.

"Transplanting" a Formula to a Different Period of Time

It has been said previously that each price is the outcome of forces acting in a combination and under conditions which are never likely to be repeated except in part. This seems to constitute a serious objection to the statistical method of price forecasting which is being tried out here. If the particular set of conditions and the particular combination of price-making forces are vital to each price and if this combination never recurs the problem of forecasting would seem impossible. Forecasting seems necessarily to rest on the assumption that, if not completely at least to a very large degree, the same relationships found in the period on which the formulae were based will continue during the future periods for which forecasts are being made and that new influences or combinations of influences will not develop to such a degree as to upset the relationships between the prices and the forecasting factors. This does not preclude the possibility of changes in the relative influences exerted by the forces found, or the introduction of new forces or new combinations of forces and environmental conditions. But it does assume that such changes take place gradually and do not greatly change the process of price determination over any very brief period of time so as to affect the practical reliability of the forecasting formulae.

It seems reasonable to suppose that a great war and an accompanying economic upheaval of the first magnitude, such as occurred between 1914 and 1921, might hasten changes in the price determining process and introduce a new set of price influencing factors which would persist for a considerable period afterwards—perhaps permanently. In other words, the war of 1914-1919 and the attendant economic disturbances provide an excellent opportunity for testing out some of the most basic assumptions on which the forecasting methods rest.

An earlier study of cattle prices was made covering the period, 1903 to 1913, and also the period, 1921 to March, 1925. In this study deviations from the secular trends rather than monthly changes in the independent variables were used in arriving at forecasting formulae. An attempt

was made to find whether the relationships discovered in the pre-war period persisted after the war. A formula was constructed, including the path coefficients found in the pre-war years with the standard deviations of the 1921-1925 period, and forecasts were made with it for the latter period.

The forecasts made from data available currently were found to differ from the actual prices by an average of 6.7 per cent of the ordinates of secular trend from January, 1921, to July, 1925, the latest data available at that time. This is nearly twice as great an average deviation as was found in the more recent study described above. But if we average the differences by years we find them to be much larger in the two earlier and less normal years than in the later ones. The average differences are 9.8 per cent for 1921, 9.9 for 1922, 4.8 for 1923, 3.3 for 1924, and 3.5 for the first half of 1925.

The same method was used in making forecasts at two months. The average difference in this case was 8.8 per cent. But by years the averages were 15.7 per cent for 1921, 11.3 for 1922, 7.2 for 1923, 3.0 for 1924, and 3.3 per cent for the first half of 1925.

The nature of these variations between the actual prices and those forecast by formulae based on 1903-1913 data seem significant in two ways. In the first place the wider variations in 1921 and 1922 than in the following years seem to be some indication of the deviation of the price-making forces from normal at this time. The fact that the differences became much smaller as the time elapsed after 1920 demonstrates that there were dissimilar periods included between 1921 and 1925. Formulae based on a combination of two dissimilar sets of conditions would not, of course, be expected to afford a basis for good forecasting under either. Therefore, it seems necessary to wait for a while after the economic upheaval of 1920-1921 in order to obtain a sufficient amount of normal data for the derivation of satisfactory forecasting formulae for use in normal periods.

The other point of significance from this experiment is that in the main the relationships of the earlier or pre-war period still hold and still determine the prices. It is probable either that the relationships between the price-making forces were

changed during the war and in the post-war period, or else that new forces not found in the pre-war period were brought into play for a short time. In either case the disturbing influences seem to have decreased in importance until they may be said to have practically disappeared by the end of 1922 or the early part of 1923. After this we find that in spite of some changes in the technique of cattle production, the maturity of cattle at earlier ages, etc., the formulae based on pre-war relationships seem to forecast prices approximately as well as they did when applied to the period from which they were derived.

Practical Application of the Forecasting Method

In any attempt to make practical use of such forecasting methods as those described above, it is necessary to remember the assumptions on which they are based. It is assumed that the relationships discovered in the correlation study and expressed compositely in the regression formula are the usual ones, and are likely to obtain in other periods as well. From the past few pages it seems that this is well borne out except under widely unusual conditions such as occur during a great war and in the period immediately following.

The real nature of the "forecasts" must not be forgotten. The "forecast" of a price of $10.14 for August, 1926, by formula 2, for instance, does not mean that we expect the average price for that month to be exactly $10.14. It means simply that out of the various possible figures which might turn out to be the average for the month in question, this seems the most probable one in view of the data already recorded on the price influencing factors included in our formula.

It was desired to obtain some factor indicating a band on either side of the forecast prices within which the greater number of actual prices would fall. It is realized that the ordinary doctrine of sampling does not apply in the case of time series. Still the differences between the actual prices and those forecast by this method do assume a distribution similar to the usual frequency array. In the usual frequency distribution approximately 68 per cent of the items may be expected to fall within a range equal to the standard deviation above or below the mean. It was therefore decided, for lack of a better

device, to use the standard deviation of the differences arbitrarily to designate this range, and it has fulfilled this condition, empirically, in the present study. Following the same reasons, we would expect about 95 per cent of the prices to fall within a range of three times the standard deviation above or below the forecasts.

We found that the average difference between the actual and the forecast prices was 3.8 per cent of the ordinates of secular trend corrected for season fluctuation, and that the standard deviation was 4.5 per cent of these ordinates. The ordinate of secular trend for this month was $10.56. Therefore we can say that 95 times out of a hundred we would expect the price to fall within .045×3×$10.56, or within $1.43 of the forecast of $10.14, which is the case in this month. Next, to use the standard deviation as indicated above; we find 4.5 per cent of $10.56 is $.48. Therefore, if the relationships found in our correlation study still apply, there are two chances out of three that the average for the month will be within 48 cents of $10.14, or between $9.66 and $10.62. Actually the average for the month in question was $9.40 and this was one of the thirty-two per cent of cases when the actual price differed from the forecast by more than the standard deviation.

For the following month, September, 1926, the forecast by the same formula was $10.09 and the actual price was $10.30, and was well within the limits of the standard deviation.

In considering the probable movement of prices, the forecasts must not be taken alone. The forecast merely expresses the probable change in price associated with the recorded changes in the series covered by the formula. All other pertinent data should be given consideration along with it, and we should expect to find the greatest usefulness of the method not when it is depended on blindly to the exclusion of other data, but when it is considered as one source of information along with various others.

BOOK REVIEWS

The Legal Status of Agricultural Cooperation, by Edwin G. Nourse. New York; The Macmillan Company, 1927. 555p. (Institute of economics. Investigations in agricultural economics.)

This new book by Dr. Nourse of the Institute of Economics is a valuable and unique contribution to cooperative literature. The author traces the legal development of cooperation in this country from its earliest beginnings to the present day. Appropriate reference to the attempts to organize cooperative undertakings under the commercial corporation laws is made; the difficulties encountered are set forth, and the reasons leading to the enactment in the various States of legislation peculiarly designed to permit the formation of cooperative associations are given. The motives for cooperation, its objectives and the means followed for obtaining them are exhaustively and entertainingly discussed.

The economic philosophy of cooperation and the fundamental differences between the cooperative and the commercial type of organization are clearly set forth. The history of the legislation, both State and Federal, pertaining to cooperation is adequately covered. The author states that "The purpose of the present book is to examine the body of cooperative law as it has thus far been developed in the United States, our chief objects being to set forth: (1) the economic philosophy of cooperative business as it has been evolved in the minds of so-called 'co-operators,' (2) the manner in which these economic purposes have come to expression in specialized statutes, (3) the relation of these laws and the practices of cooperative associations to the general body of our commercial law, and (4) the attitude of courts in applying both general and special statutes to the cases which have come before them, noting particularly (5) the bearing of all this upon the question of competition, business stabilization, and restraint of trade as a great general issue of our current economic institutions."

The book is not simply a dry recital of facts, but the narrative of the legal development of cooperation is enlivened and enriched by illuminating interpretative comments.

Under the head of "Market Adjustment as a Goal of Commodity Marketing" is discussed the influence of pooling of the product through an association as a factor in determining the price of the product. In this connection the author says: "This idea of cooperation as a means of exacting a cost-plus price has never been held by the better trained leaders in the movement and has gradually faded out of the minds of even the more radical under the disillusioning experiences of the last few years." He is of the opinion that a cooperative organization should seek to advance the interests of its members through efficient and effective marketing methods and through economies in operation rather than by attempting to obtain a cost-plus price. He expresses the view that a large association may have a stabilizing influence in the market, but that it is impossible for an association to obtain more than the fair

market price for the product which it handles, when considered in the light of economic conditions.

The author takes the position that cooperative statutes should be so broad and inclusive as to permit any economic group to organize under them. Apparently it is thought the claim that farmers have a class advantage in that they may form cooperative marketing associations could be easily met or obviated if the cooperative statutes permitted the formation under them of cooperative associations by the members of any economic group. He points out that a few of the early cooperative statutes were so drawn as to permit of the organization under them of virtually any economic group. In this connection it should be remembered that the formation of any incorporated organization is looked upon as a legislative act. Originally every corporation was formed through the enactment by a legislature of an act that constituted its charter, and today, although corporations are now virtually all formed under statutes, the act of forming them is regarded as a legislative act and of course it is always optional with the legislature to pass any statute. Again the particular needs of farmers for a particular type of incorporated organization, it would seem, might properly be reflected in the statutes just as particular provisions exist in the laws of nearly all of our States for the formation of religious organizations or for other special types of organization.

Apparently it is the thought of the author that farmers are not, because of their occupation and the conditions surrounding it, entitled to a different classification from those engaged in other pursuits. This proposition is presented in its most acute form in statutes such as the Capper-Volstead Act, that are designed to remove associations of farmers that meet their conditions from the antitrust laws. There is of course some basis in the court decisions for the view that farmers or their associations are not entitled to a different classification from those engaged in industrial pursuits. On the other hand, nearly all statutes involve a certain amount of classification. For instance, the Federal Trade Commission Act gives the Federal Trade Commission jurisdiction to restrict unfair practices on the part of those engaged in interstate commerce, but excepts therefrom banks and railroads. It is believed that farmers due to their large numbers, to the universal character of their occupation, to the distances that separate them, to the difficulties inherent in adjusting the supply of agricultural commodities to the demand, and to the general character of their employment, possess a sound basis for a different classification from those engaged in industrial pursuits.

The writer of this review dissents from the opinion expressed by the author that the Department of Justice and the Federal Trade Commission, with respect to antitrust matters, have general initial jurisdiction over cooperative marketing associations that meet the conditions of the Capper-Volstead Act. On the contrary, assuming that the Capper-Volstead Act is constitutional, by its terms it permits a cooperative association that meets its conditions to have a complete monopoly of the

product handled, and the consequent restraint of trade involved, or the monopoly itself, does not bring the association under the jurisdiction of the Department of Justice or of the Federal Trade Commission. If the association unduly enhanced prices, this would not be a matter for consideration for either the Commission or the Department of Justice, but would call for action under the Capper-Volstead Act, by the Secretary of Agriculture. If the Secretary of Agriculture, following a hearing, issued an order against an association, its enforcement would devolve upon the Department of Justice. Of course, the Capper-Volstead Act does not prohibit either the Department of Justice or the Federal Trade Commission from initiating action against any association under the circumstances detailed, but if such action were taken the association could defend by showing that it was operating under the Capper-Volstead Act and on such a showing being made the proceeding should terminate because of a lack of jurisdiction by the agencies in question.

Of course, apart from monopoly or restraint of trade, or the undue enhancement of prices, a cooperative association could be guilty of unfair competition or wrongful acts, such as to subject it to the jurisdiction of the Federal Trade Commission in the one case or the Department of Justice in the other.

In discussing the relation of the courts to cooperative associations the author states that they "do not have to rely merely upon their own wisdom" but may have the assistance of the Federal Trade Commission on matters involving unfair trade practices, or the Department of Agriculture under the Capper-Volstead Act, with respect to the reasonableness of prices, or upon statistical questions, or accounting matters, or economic theory. As pointed out above, the courts assuming the constitutionality of the Capper-Volstead Act would have no occasion to pass upon the question of monopoly or restraint of trade unless an association, following a hearing by the Secretary of Agriculture, refused to comply with the order which was issued requiring it to "cease and desist from monopolization or restraint of trade." Again the courts are not authorized to call upon the Department of Agriculture or the Federal Trade Commission for information, but must pass upon each case coming before them upon the record made by the respective parties to litigation, plus such general information of which they may take judicial notice. The decisions of the Federal Trade Commission would, of course, be of value as precedents.

Referring to the statement in the "Standard Marketing Act" that "the public interest urgently needs to prevent the migration from the farm to the city in order to keep up farm production and to preserve the agricultural supply of the nation," the author makes some interesting comments apropos the "surplus" problem. Throughout the book the history of the legal development of cooperative marketing as viewed by an economist, with special reference to the economic principles involved and applicable, is thoughtfully portrayed. The author believes

that cooperation has justified its existence and that "it is well that cooperation even of the forceful modern pattern has been accepted as a going institution of present day business."

The lawyer, cooperative executives and leaders, as well as the student of cooperation, will find in this new book a mine of information and thought-provoking comment.

L. S. Hulbert.

Bureau of Agricultural Economics.

Diminishing Returns in Agriculture, by F. Lester Patton, New York; Columbia University Press, 1926. Pp. 97.

Diminishing Returns in Agriculture is a 97-page essay by F. Lester Patton, Professor of Economics in Hamilton College. The work, which was presumably a doctoral dissertation done at Columbia University, was published in 1926 by the Columbia University Press as Number 284 in its Studies in History, Economics, and Public Law.

The author has attempted to do what badly needs to be done, namely to classify and give names to three distinct concepts which have all been discussed heretofore under the one caption, Diminishing Returns. To the diminishing productivity of a fixed factor of production when associated with increments of a variable factor of production Professor Patton assigns the caption, Diminishing Physical Returns. The reader will at once recognize this as being the same concept which is called in some of the recently published texts in economics, Diminishing Productivity. The "Returns" in this case are quantity of product returns, not value returns.

Professor Patton discusses a second concept of Diminishing Returns under the chapter heading, "Anticlinal Profits in Agriculture". There has been for a long time considerable controversy as to whether when discussing Diminishing Returns one should have in mind "quantity of product returns" or "value of product returns". Obviously an entrepreneur is interested primarily in costs and returns in terms of exchange value. The law of diminishing returns must therefore be broad enough to cover the concept "diminishing value returns". Professor Patton has adopted the rather dubious title, "Anticlinal Profits" to cover this concept. The writings of Professors Davenport, F. M. Taylor, Knight, and Black have done much in recent years to fix attention on this conception of diminishing returns.

The third concept, and one which is more often in mind when discussing diminishing returns, is "the proposition that, if population continues to increase, the efforts of successive generations of men to produce food will be rewarded by steadily diminishing returns of crops raised in proportion to the labor and expense involved". This is what Marshall calls the "Great Law of Diminishing Returns" but which Professor Patton calls "Secular Diminishing Returns". Marshall called it the great law of diminishing returns to distinguish it from something which in many respects was much like it, namely, "The Law of Substitution". What

Marshall discussed under his law of substitution Professor Patton has discussed under "Diminishing Physical Returns" and "Anticlinal Profits".

Professor Patton aptly states in his concluding chapter that "the efforts of many economists to arrive at a permanent and satisfactory statement of the law of diminishing returns have been impeded by (1) the lack of a precise terminology, (2) the failure to keep distinct the three sorts of phenomena, physical, entrepreneurial, and secular, to which it has generally been attempted to apply it, * * *". With the recently renewed interest in the economics of entrepreneurship an augmented interest has been taken in the laws of productivity. It does not matter much what names are given to the various concepts which have been treated under the "Law of Diminishing Returns" but it would facilitate the teaching of the subject if there could be agreement in the matter of terminology.

In his chapter "Secular Diminishing Returns" Professor Patton takes the position that in the past returns have always been increasing rather than decreasing and that the probability is that they will continue to be increasing. He takes exception to the Malthusian argument and approves the position that "the world is and always has been fully populated." Professor Patton believes that "even stronger evidence * * * is the story of human invention". His contention is that "invention is a nearly universal trait". This is a doubtful contention for an economist to argue for in view of the fact that the natural scientists including the psychologists have not yet been able to furnish conclusive evidence that it is so.

Professor Patton's essay is brief but excellent. It also possesses the merit of an easy style. The student in the field of Agricultural Economics will find enjoyment and profit in reading it.

Millard Peck.

Bureau of Agricultural Economics.

Industrial Prosperity and the Farmer, by Russell C. Engberg. New York; Macmillan Company, 1927. Pp. 286.

The experiences of the past decade have quickened the interest of the public generally and of the captains of industry and trade in particular, in those more or less periodic fluctuations in business commonly described by the term business cycle. The prolonged period of agricultural depression during several years of unprecedented industrial prosperity has indicated the need for a more careful analysis of the relation of agricultural prices and farm incomes to variations in business activity and in the incomes of non-farmers. In this book the author has made a distinct contribution by supplying a more complete analysis of the effect of business fluctuations upon the farmer than has heretofore been available.

Attention is centered upon three fundamental questions:

"(1) To what extent are business cycles responsible for farmers' recurrent difficulties?

(2) Is it worth while for farmers to attempt to adjust their production policies to changes in demand or costs predicated on business forecasts?

(3) Are the remedies suggested for business cycles likely to prove effective in stabilizing agricultural production and prices?"

In attempting to answer these questions a general analysis of the factors affecting agricultural production, the demand for and prices of farm products, and the expenses of farmers is presented. Six chapters are devoted to these questions. The effect of business cycles on cotton, the corn-hog industry and wheat are considered in three chapters. The argument is well summarized and the conclusions presented in the final chapter. The results of correlation studies made by the author and the results of other studies of the prices of particular farm products which are closely related to the problems discussed are presented briefly in appendices.

The general conclusions drawn are no doubt warranted, although the evidence is not thoroughly convincing at all points. Perhaps a better case could be made for the effect of business fluctuations upon agriculture if certain other products such as lamb, dairy and poultry products or some of the fruits and vegetables were analyzed in detail. Also, more elaborate statistical analyses of the products considered would probably reveal more precisely than is done the effect of business fluctuations upon the prices of particular products. Nevertheless, the general conclusion "it cannot be said that the fluctuations in domestic business conditions have been demonstrably the cause of agricultural depressions" would remain unchanged. This is true because fluctuations in the supply of agricultural products have a greater influence upon prices than short time changes in demand.

If the answer to the first question is substantially correct then the answer to the second and third questions must be in the negative. Nevertheless in recognition of the ups and downs in the production and prices of particular farm commodities which occur more or less periodically and largely independent of the usual fluctuations in general business conditions the following paragraph is significant:

"Only one of the remedies generally proposed appears to be of any definite help in correcting the maladjustment of agriculture. That is the suggestion that the necessary data be made available, chiefly by public agencies, so that producers can study the statistical position of the commodities involved and then proceed to neutralize the tendency toward distinctive cycles by expanding and contracting agricultural production in anticipation of the situations which now lead to cyclical oscillations."

The author concludes that: "The broadcasting of such information can be shown to have had a beneficial effect in certain instances, and the extension and improvement of such services should be encouraged."

J. W. Tapp.

Bureau of Agricultural Economics.

***The Rural Industries of England and Wales. 1. Timber and Underwood Industries*, by Helen E. Fitzpatrick and M. Dorill Hay, New York; Oxford University Press, American Branch.**

"Tell me now in what hidden place is
The swingle hand and the scutching cleaver,
And where the elegant silken braces
Drawn from the loom of the Coventry Weaver.
Where are the glossy hats of beaver,
High blocked and stiff, the swain to please.
The Ancient Spinster, who shall retrieve her,
Where are the Rural Industries?"

The series of which the above book on Timber and Underwood Industries is the first, answers the question of the poet. It tells us where the rural industries are, what there are left of them, and how they are carried on; it describes the practices, the sources of raw materials, labor supply, markets, demand, and the trends of each industry. The book includes illuminating discussions of the attempts of these ancient, and often hereditary, industries to adjust themselves to industrial evolution. In certain localities, and under certain conditions, there is evidently a survival of the ancient industries. A perusal of the volume makes it clear that their field is narrowing and that they are carried on, in many instances, almost entirely by old men.

The volume cannot but be a joy to the forester, or rural economist, with a flair for the historical and descriptive. It is well written, and interesting reading. It abounds with the vocabulary of an earlier period. Trugs and clogs, underwood and coppices, besoms, "doddle heads" and "dolly tubs" are but examples of terms which the writer never met before.

The book is a product of the Agricultural Research Institute at Oxford. As a report in the field of Agricultural Economic Research, it possesses several characteristics which differentiate it from the usual American study of this type. First. There is no attempt whatever at statistical or closely quantitative treatment, nor are any methods of graphic presentation employed. The book is simply a verbal description and analysis of the conditions found in a study which must have required a number of years of field research. Second. The authors indulge in interesting descriptions of technical processes and specific trade practices which are not common in American research treatises of this type. Third. The report is broadly inclusive of all practices, trends, and conditions relating to rural industries and is not in any sense a special objective study of the type our present-day American Research Administrators in Agricultural Economics are so prone to insist upon.

I. G. Davis.

Connecticut Agricultural College.

RECENT PUBLICATIONS

Compiled by Mary F. Carpenter, Library, Bureau of Agricultural Economics, U. S. Department of Agriculture

ARKANSAS.

Brannen, C. O. and Dickey, J. A. Strawberry production and marketing in Arkansas. (Ark. Agr. Exp. Sta. Bul. 218. 1927)

About one-third of the bulletin is devoted to cost of production data obtained by local surveys.

CALIFORNIA.

Allen, F. W. Apple growing in California. (Calif. Agr. Exp. Sta. Bul. 425. 1927)

A few pages are devoted to packing, marketing, storage, yields and returns.

California. Dept. of agriculture. California crop report. 1926. (Special publication 74. 1927)

California. Dept. of agriculture. Monthly bulletin, v. 16, no. 6. June, 1927. Partial contents:

Allewelt, W. F., and Rogers, S. S. Future production of cantaloupes in California, p. 317-331.

Read, F. W. Standardization as it affects the marketing of California's deciduous fruits, p. 332-336.

Ghiggoile, O. A. California cheese control, p. 350-353.

Kaufman, E. E. Federal-State agricultural statistics, p. 364.

California. Dept. of agriculture. Monthly bulletin, v. 16, no. 7. July, 1927. Partial contents:

Sherman, W. A. The produce dealers' act, p. 393-396.

Jones, H. A., and Ernst, F. H. Cauliflower production in California. (Calif. Univ. Col. of Agr. Agr. Ext. Serv. Circ. 11. 1927)

Shipping seasons, p. 4-5.

Grading, standardization, packing and loading, p. 20-27.

Shear, S. W., and Gould, H. F. Economic status of the grape industry. (Calif. Agr. Exp. Sta. Bul. 429. 1927)

This bulletin of 126 pages "represents the results of a cooperative study by the Department of Research of the California Development Association and the Division of Agricultural Economics of the College of Agriculture," University of California.

Wellman, H. R. Apricots. (Calif. Agr. Exp. Sta. Bul. 423. 1927)

Part of a series on California crops and prices.

DELAWARE.

Bausman, R. O. Producing and marketing farm produce in northern New Castle county. (Del. Univ. Ext. Serv. Ext. Bul. 13. 1927)

Results of a farm business survey conducted in 1925 in cooperation with the Bureau of Agricultural Economics of the U. S. Dept. of Agriculture.

IDAHO.

Idaho. Agricultural experiment station. Work and progress . . . for the year ended December 31, 1926.

Report of work in Agricultural Economics, p. 15-16.

——Farming business in Idaho. Being Part I of a tentative report of the agricultural situation, based on an economic survey of the production and marketing of Idaho farm products. (Idaho Agr. Exp. Sta. Bul. 151. 1927)

Wells, C. F., and Dale, H. C. Idaho agriculture. The potato situation in Idaho. (Idaho Agr. Exp. Sta. Bul. 153. 1927)

Part 3 of the economic survey of Idaho agriculture and its relation to the national situation.

ILLINOIS.

Elliott, F. F. Adjusting hog production to market demand. (Ill. Agr. Exp. Sta. Bul. 293. 1927)

In cooperation with the Bureau of Agricultural Economics, U. S. Dept. of Agriculture.

Part I. Why hog prices fluctuate.

Part II. Causes of yearly fluctuations in the supply of hogs.

Part III. Response of hog producers in different sections of Illinois to corn-hog ratio.

Part IV. Adjusting hog production to market demand.

Statistical appendix, p. 547-567.

Gaines, W. L. A price differential for whole milk. Based on fat test and feed cost of production. (Ill. Agr. Exp. Sta. Circ. 318. 1927)

Illinois crop and live stock statistics . . . Crops, 1924-1926; livestock, January 1, 1925-1927. (Ill. Dept. of Agr. Circ. 360)

Rickey, L. F. Costs of storing corn on the farm. (Ill. Agr. Exp. Sta. Bul. 295. 1927)

Factors considered in this bulletin are: interest on the money tied up in the corn; interest and depreciation charges on cribs used; insurance against loss from fire and storms; shrinkage; and change in grade.

INDIANA.

Lloyd, O. G., and Young, G. E. Feeding and marketing of early spring pigs on Indiana farms. (Ind. Agr. Exp. Sta. Bul. 310. 1927)

"Farmers . . . have not generally considered the higher price during September and October to be a factor in determining their system of hog production."

Gaylord, F. C. Grades for Indiana apples. (Ind. Agr. Exp. Sta. Circ. 141. 1927)

Gaylord, F. C. Indiana peaches. (Ind. Agr. Exp. Sta. Bul. 309. 1927)

Relates to the harvesting and marketing of peaches.

Gaylord, F. C. Marketing Indiana onions. (Ind. Agr. Exp. Sta. Bul. 308. 1927)

IOWA.

Bjorka, Knute. Income to Iowa agriculture, 1920-1926. (Iowa Agr. Exp. Sta. Circ. 104)

Bjorka, Knute. Some statistical characterizations of the hog market. (Iowa Agr. Exp. Sta. Res. Bul. 102. 1927)

Some of the headings in this bulletin are: characteristic movements of hog prices; some factors that affect hog prices; hog price differentials between grades at the same market; hog price differentials between markets; corn-hog price ratio.

Appendices give statements of statistical methods employed, a list of sources of periodical statistical data on hogs and hog products, and references to assembled series of hog statistics.

KANSAS.

Green, R. M., and Stokdyk, E. A. Judging price risks in marketing wheat. (Kansas. State Agr. Col. Ext. Circ. 54. 1927)

Laude, H. H., and Grimes, W. E. Growing flax in Kansas. (Kans. Agr. Exp. Sta. Circ. 133. 1927)

The flax industry and the tariff, p. 3-4.

Marketing flax, p. 8.

KENTUCKY.

Johnson, E. C. Marketing Kentucky livestock. (Ky. Agr. Exp. Sta. Bul. 278. 1927)

"The purpose of this bulletin is to describe and analyze the methods used . . . It does not go into detailed economic analysis of marketing agencies but aims to bring out significant facts, and point out specific problems."

MASSACHUSETTS.

McFall, R. J. The milk supply of Massachusetts. (Mass. Agr. Exp. Sta. Bul. 236. 1927)

The contents are arranged under:

Local production and imports.

Consumption and sources of supply in Springfield and vicinity.

Milk production and shipped-in feed.

MICHIGAN.

Riddell, F. T. Farm lease systems in Michigan. (Mich. Agr. Exp. Sta. Circ. Bul. 102. 1927)

Rogers, A. J., jr. Studies in orchard management with special reference to cherry production. (Mich. Agr. Exp. Sta. Special Bul. 166. 1927)

A "summary of development and maintenance costs and of yields and returns" based on detailed records kept for sixteen years on Mr. Rogers' farm in Benzie County, Michigan.

MINNESOTA.

McGinnis, F. W. Hay making in Minnesota. (Minn. Univ. Dept. of Agr. Ext. Div. Special Bul. 113. 1927)

Grading and marketing, p. 9-11.

Minnesota. Agricultural experiment station. Thirty-fourth annual report, July 1, 1925, to June 30, 1926.

List of projects in agricultural economics, p. 36.

Price, H. B., and Rowe, H. B. Efficient operation of local elevators. Costs

and incomes of farmers' elevators in Minnesota for 1925-1926. (Minn. Univ., Dept. of Agr., Ext. Div. Special Bul. 114. 1927)

Zimmerman, C. C., and Black, J. D. Marketing attitudes of Minnesota farmers. (Minn. Agr. Exp. Sta. Tech. Bul. 45. 1926)

This study is a joint project with the Division of Farm Population and Rural Life, Bureau of Agricultural Economics, U. S. Dept. of Agriculture. It presents the opinions and points of view of the farmers "toward marketing problems, and particularly toward cooperation."

MISSISSIPPI.

Long, L. E. The sources of net income. A comparison of South Mississippi farms having high and low net cash incomes—1924. (Miss. Agr. Exp. Sta. Circ. 73. 1927)

MISSOURI.

Frame, B. H. The horse and mule outlook. (Mo. Agr. Exp. Sta. Circ. 157. 1927)

MONTANA.

Montana. College of agriculture and mechanic arts. Extension service. An agricultural program for Montana. ([Bul.] 84. 1927)

"Presenting information gathered by, and recommendations of leading farmers, business men, stock men and orchardists of Montana, in district conferences held in the spring of 1927."

NEBRASKA.

Hedges, Harold. Protein as a wheat price factor. (Nebr. Agr. Exp. Sta. Bul. 221, 1927)

Based upon the answers to questionnaires sent to milling firms in February, 1927.

Nebraska. Agricultural experiment station. Fortieth annual report, 1925-26.

Rural economics, p. 29-30.

Rankin, J. O. Cost of feeding the Nebraska farm family. A comparison of costs and standards of food consumption of owners, part-owners, and tenants. (Nebr. Agr. Exp. Sta. Bul. 219. 1927)

"Based mainly upon a survey conducted in 1924 in cooperation with Dr. E. L. Kirkpatrick, of the Bureau of Agricultural Economics, U. S. Dept. of Agriculture."

NEW JERSEY.

Lynn, William C. What is this standardization? (N. J. Dept. of Agriculture. Circ. 115. 1927)

An illustrated leaflet on packing and loading fruits and vegetables.

NEW MEXICO.

New Mexico. Agricultural experiment station. Thirty-seventh annual report . . . 1925-1926.

In the report on agricultural economics the status of projects is

given and also a summary of Project II, The economics of range cattle production, which is to be published in bulletin form.

Walker, A. L., and Lanton, J. L. A preliminary study of 127 New Mexico ranches in 1925. (N. Mex. Agr. Exp. Sta. Bul. 159. 1927)

Results of a cooperative project between the New Mexico Agricultural Experiment Station and the Bureau of Agricultural Economics, U. S. Dept. of Agriculture.

NORTH CAROLINA.

Forster, G. W., and Saville, R. J. Profitable farm combinations adapted to the lower coastal plain of North Carolina. (N. C. Agr. Exp. Sta. Bul. 252. 1927)

Results of an investigation of the organization of a number of representative farms with an analysis of the prices and yields. Published in cooperation with the Division of Farm Management and Costs, Bureau of Agricultural Economics, U. S. Dept. of Agriculture.

North Carolina. Dept. of agriculture. Biennial report . . . from December 1 [1924] to November 30, 1926.

Report of the Division of Markets, p. 33-42.

Report of the Statistical Division, p. 65-78.

OHIO.

Ohio. Agricultural experiment station. Bimonthly bulletin, v. 12, no. 4. July-August, 1927.

Partial contents:

Arnold, C. R. Ohio farm incomes for 1926.

Falconer, J. I. Farm wages in Ohio.

Hauck, C. W. Carlot unloads of apples in four Ohio cities.

OKLAHOMA.

Oklahoma. Agricultural and mechanical college. Extension division. A suggested system for Oklahoma cotton farms. (Circ. 233 [1927])

Suggests "what uses may be made of the 1,200,000 acres of Oklahoma land that grew cotton in 1926 but should not grow cotton in 1927". Some farm plans are given, that have been worked out for farms of different sizes and different conditions.

Oklahoma. Agricultural and mechanical college. Extension division. What type of farming is most profitable? (Circ. 234 [1927])

Some of the results of a survey of farm business made by the Department of Agricultural Economics of the College.

PENNSYLVANIA.

Pennsylvania. Dept. of agriculture. County and state agricultural organizations with dates and places of fairs—1927. (Gen. Bul. 443. 1927)

Gives the names and addresses of presidents and secretaries.

SOUTH CAROLINA.

Jensen, Ward C. Economics of producing and marketing South Carolina peaches. (S. C. Agr. Exp. Sta. Bul. 239. 1927)

"Part of the regional economic investigation . . . undertaken

cooperatively by the Federal Bureau of Agricultural Economics and the experiment stations."

Robinson, F. H., and Jensen, Ward C. An agricultural production, consumption, and marketing study in the Greenville, South Carolina, trade area. (S. C. Agr. Exp. Sta. Bul. 240. 1927)

Most of the bulletin is devoted to commodity analyses including cotton, truck, fruit and feed crops, meats, poultry and dairying. There are about twelve pages on the characteristics of the area and a statistical appendix.

Schilletter, A. E., and Prince, G. E. The sweet potato industry. (Clemson Agr. Col. Ext. Div. Bul. 84. 1927)

Grading and packing, p. 15-22.

SOUTH DAKOTA.

Dawson, O. L. South Dakota farm production and prices. (S. Dak. Agr. Exp. Sta. Bul. 225. 1927)

In cooperation with U. S. Dept. of Agriculture, Bureau of Agricultural Economics. Gives acreages, yields and production by counties, and prices for a series of years.

Hardies, E. W., and Hume, A. N. Wheat in South Dakota. (S. Dak. Agr. Exp. Sta. Bul. 222. 1927)

Production and wheat districts in South Dakota, p. 3-7; Market classes and grades, p. 22-23.

Kumlien, W. F. What farmers think of farming. (S. Dak. Agr. Exp. Sta. Bul. 223. 1927)

This study was made in cooperation with the Division of Farm Population and Rural Life, Bureau of Agricultural Economics, U. S. Dept. of Agriculture, and contains the results of a survey of 150 farm families living in Orland and Clarno Townships, Lake County, South Dakota.

TEXAS.

Crawford, G. L. An economic study of the dairy industry in Texas. (Texas Agr. Exp. Sta. Bul. 358. 1927)

"In this study . . . producers and distributors were interviewed and estimates made of (1) the production and distribution of whole milk, (2) the production and distribution of butter, and (3) the production and distribution of ice cream."

Gabbard, L. P., and Jones, F. R. Large-scale cotton production in Texas. (Texas. Agr. Exp. Sta. Bul. 362. 1927)

In cooperation with the Bureau of Agricultural Economics and the Bureau of Public Roads, U. S. Dept. of Agriculture. The areas selected for this study were Corpus Christi and San Angelo "because in both of them, a number of farmers have recently changed partially or entirely from horse to tractor power."

VIRGINIA.

Garnett, William Edward. Rural organizations in relation to rural life in Virginia, with special reference to organizational attitudes. (Va. Agr. Exp. Sta. Bul. 256. 1927)

Virginia. Dept. of agriculture and immigration. Bulletin 234. June, 1927.

The Division of Markets gives information of interest to farmers, p. 6-9, including the new state law regulating the grading and marketing of apples.

WASHINGTON.

Taylor, E. A., and Yoder, F. R. Rural social organization in Whatcom County. (Wash. Agr. Exp. Sta. Bul. 215. 1927)

In cooperation with the Division of Farm Population and Rural Life, Bureau of Agricultural Economics, U. S. Dept. of Agriculture. This is the second of a series of which "Rural social organization in Whitman County" (Wash. Agr. Exp. Sta. Bul. 203) was the first.

Severance, George. An economic study of poultry farming in Western Washington. (Wash. Agr. Exp. Sta. Bul. 216. 1927)

Based upon records from "farms on which poultry was maintained on a commercial scale, and where the production of market eggs was a major poultry enterprise."

WYOMING.

Vass, A. F., and Pearson, Harry. An economic study of range sheep production on the red desert and adjoining areas. (Wyo. Agr. Exp. Sta. Bul. 156. 1927)

This is No. 2 of Range and Ranch Studies in Wyoming, of which No. 1 was Agricultural Experiment Station Bulletin 147.

Wyoming. Dept. of Agriculture. Wyoming agricultural statistics, No. 4, 1926.

In cooperation with the Bureau of Agricultural Economics, U. S. Dept. of Agriculture.

Partial contents:

County facts and figures. Crops. Livestock. Honey. Dairying. Poultry. Climatology. Agricultural directory.

PUBLICATIONS OF THE BUREAU OF AGRICULTURAL ECONOMICS

Issued July 1—October 18, 1927.

TECHNICAL BULLETINS.

6. Heat-damaged wheat, by D. A. Coleman and B. E. Rothgeb. Describes the physical, chemical, milling and baking properties of heat-damaged wheat of various degrees of discoloration and practical means of avoiding heat damage on the farm. The annual loss from this type of damage to wheat is estimated at about $2,000,000.
7. Origin and distribution of the commercial potato crop, by J. W. Strowbridge. A graphical presentation supported by tables and text. The State destinations of the crops of the most im-

portant producing sections, and the sources of supply for the largest city markets are shown in a series of 37 maps and charts.

13. Practices and costs of cotton-gin operation in north-central Texas, 1924-25, by James S. Hathcock. An intensive study of the ginning business as conducted in Dallas, Ellis, and surrounding counties in Texas and notes on the trend of the industry in the United States. Costs and margins are given in detail to show the effects of different kinds of power and of volume of business on costs and margins. Besides custom ginning, a gin business may include a seed business, sale of bagging and ties, a seed cotton, and a cotton business, which may themselves be profitable or unprofitable. Great variation was shown in most of the items.

CIRCULAR.

16. Some economic aspects of the marketing of milk and cream in New England, by W. A. Schoenfeld. "The study was made in a relatively brief space of time and is not presented as a complete treatment but as a rapid survey for the purpose of obtaining data which would be helpful in solving some of the current problems in the New England milk-marketing situation." New phases include discussion of effects of recent changes in freight rates, areas covered by up-country milk plants, economical size for up-country milk plants, and price relationships.

FARMERS' BULLETIN.

1542. Cleaning grain on farms and in country elevators, by R. H. Black and E. G. Boerner. Calls attention again to the problem and the means of reducing losses entailed by having and shipping unclean wheat.

STATISTICAL BULLETINS.

16. Prices of farm products received by producers: South Atlantic and South Central States. Completing the series of farm-price data by States through 1925. (Data for 1926 and 1927 to bring the tables for any State or any commodity up to date may be obtained from current issues of Crops and Markets.)

20. Statistics of cattle, calves, beef, veal, hides and skins. Historical series for these commodities, including production, stocks, movement and prices.

NOTES

What About Peasantry?

The common conception of peasantry on the Continent of Europe entertained in this country is sufficient explanation of the expressed fears about the future lot of farmers in the United States if the conditions of farming are allowed to continue unfavorable to farmers for an extended period. The arguments seem logical enough if one accepts the premises. But are the premises sound?

One of the chief difficulties to rational discussion of the many questions involved is general lack of precise appraisal of the facts of the problem. Such appraisal seems to be waiting on the development of scientific treatment of farming in this country and abroad on comparable bases, or, lacking strict comparability, on establishment of some means of reconciling differences between the social orders represented. Only the beginnings of such treatment have been made on either side of the ocean, and these indicate that much more information is needed than is afforded by the observations of travelers or by impressions gathered from fiction.

A start can be made by taking the first definition of "peasant" to be "a country man" and examining the situation of country people on the continent of Europe by countries in recent years. Changes have been made there in spite of the inertia of the social systems and low level of popular education prevailing for centuries. Changes have been made in this country. We no longer think of our owner-operator farmers as "hayseeds," nor in terms of the self-sufficing economy of colonial times. Should we then assume that the European peasant is virtually if not nominally "serf," a "boor," or necessarily a hopelessly inefficient producer reduced to a level of bare existence? Some of them doubtless show any or all of the characteristics attributed to them in the literature. But are they relatively any worse off than the poor people in the cities? Is the contrast between the European peasant and our typical farmer any more marked than that which might be drawn between workers in the cities of Europe and skilled and unskilled workers in this country?

Without attempting to answer these questions we present here an abstract of a paper by Sigmund von Frauendorfer which throws some light on the characteristics of peasant-management in Germany. [1]

Are Peasant-managements Capitalistic Enterprises?

After showing that the technic of farm management has been worked out, in the main, for large scale management the author states that "agricultural management doctrine" has neglected the peasant farmer in the formulation of its principles. Recently, however, a change has come about and much interest is now shown in Germany and elsewhere in small scale or peasant farm management, which statistics show comprises about 90 per cent of the agricultural area in South Germany. The question asked in the title "Are peasant managements capitalistic enterprises?" cannot be answered without some definitions of the concepts of peasant-management and also of capitalistic enterprises. We quote:

"The official statistics use the size of the managed area as the distinguishing characteristic of the peasant-managements. The managements of 2 - 5 hectares are called small peasant-managements, those of 5 - 20 hectares, middle, and those of 20 - 100 hectares large peasant-managements. However, numerous authors claim that the use of the dimension of the areas as a criterion of the agricultural classes of managements is too external and too unreliable to be used as a means of statistical calculations. There are undoubtedly numerous managements of from 2 to 100 hectares, which we cannot consider as peasant-managements. Highly intensive managements in fertile districts of the size of only 60 - 80 hectares may frequently bear evidence of large-scale management. On the other hand, in barren mountain districts, managements of more than 100 hectares may well be classified as peasant-managements. Managements of less than 2 hectares total area, may, when used for gardening, be referred to as peasant-managements under certain circumstances. We must therefore look for a better criterion than the dimension of the area.

"The characteristic situation of the family of the proprietor in peasant-managements has often been used as a criterion, and the term 'family-management' should be identic with peasant-management. Tschajanow has recently used this idea as the point of issue in his Doctrine of Peasant-Management. He identifies peasant-management as a management in which no wages are being paid, and he uses the capitalistic management as the exact opposite. Such classification may be justified in Russian conditions, but it is too narrow for other nations,

[1] Frauendorfer, Sigmund von. Sind bauernbetriebe kapitalistische unternehmungen? (In Landwirtschaftliches jahrbuch für Bayern, 17 jahrg., numb. 3/4, 1927, p. 164-173) The abstract is by Miss Mary G. Lacy, Librarian, Bureau of Agricultural Economics, from a translation by Theodor Holm.

notably our German peasants. We may here insert the question, whether peasantry is a concept that can be applied and understood internationally. If we use the term peasantry in the sense of our agrarian-historians, and if we maintain its historic development as an essential criterion, we must then forego the use of this term in a general manner. For there are large districts in the world where peasants are not known in that sense; the colonial territories especially are among these. The concept, peasantry, must also be rejected in old countries where a young class of agricultural management leaders have brought about modern interior colonization. . . It is not to be understood from a management point of view why, for instance, a Danish landowner shall be called a peasant, but the owner of an American family-farm not so, while both in their management capacity show the same wide distance from a Russian peasant. . . The conception of peasant-management as that of a family may help us a good deal, but the expression must not be used too narrowly if it is to be generally valid. The presence of servants cannot prevent us from calling the management peasant-management. Furthermore the temporary or continuous employment of day-laborers makes no difference, so long as the proprietor-family is the back bone and foundation of the total labor-constitution in the sense that bodily collaboration is given.

"Some limit must also be drawn in other directions. There are, in South Germany especially, innumerable managements which are combined with extra earnings that are not in the scope of agricultural management. Shall we or shall we not include these managements in the peasant-managements? The decision may be made depending on how far agriculture may be considered as the main source of support to the whole family. If such be the case, there seems no necessity for separating managements with extra earnings from those of the peasants . . .

"We exclude rented land of any size from the category of peasant managements for the reason that the renting condition includes several special problems in the line of management, which makes it desirable to treat it separately. It is also readily appreciated that a peasant-management may never be superintended by a paid director without losing the most characteristic criterion of its special type.

"These criterions described above, referring to the peasant-managements, are to be considered with regard to the size of the management; we do not mean the area alone, but also the total capital invested. Taking into consideration all these points, we arrive at the following definition of the concept, which from a linguistic viewpoint may seem inconvenient, but which has the advantage of defining the nature of the peasant-management very clearly from the purely economic point of view. A peasant-management thus means *an agricultural management, which is so limited as to area and capital investment, that it sufficiently supports the owner and his family, but only by means of self-management and continuous bodily collaboration, but which, on the other hand is large enough to maintain the agriculture and yet permit of some extra*

earning, without permitting the practice of agriculture to lose its character as the main occupation of the proprietor family."

The author then explains fully his reasons for omitting from this definition any form of the word "capital" or "capitalistic" and defines what he believes to be the meaning of these variously used words, quoting from several economists of note. He then discusses the term "enterpriser" and states that "the enterpriser—comprises three groups of people; the enterpriser, the capitalist working for interest, and the laborer for wages. The simple acquisition management differs from the enterprise by using essentially only own labor and own capital. (Pohle.) Very significant is the characteristic division, suggested by Liefmann, of acquisition management and consumption management by the capitalistic enterprise. To this must be added the endeavor to estimate all the expenses in money.

"The characteristic of the peasant in his management consists in his function as the first and most important working power. The peasant does not stand like an object opposite his management, but he stands in the center of it. The working power of the peasant is at the same time the most important means of his management. The family of the typical enterpriser has nothing to do with the management, and is in a position to devote its working power to outside enterprises, whereas, the family of the peasant, especially his wife, is the most important complement to the working power of the leader of the management, and stands consequently also in the center of the management. It is entirely impossible to imagine a peasant-management without a peasant family, while it seems very possible that a well organized enterprise may continue its activity for a while in the absence of the enterpriser. We may say that the typical enterpriser is mentally, but not really personally related to his management, and that he therefore considers this as a mere object. His interest for this object disappears, as soon as his aim—the acquisition of some surplus above the current rate of interest—becomes a failure. The fact that the peasant produces with his own hand in the management, has a great influence upon his opinion about the advantageousness of labor to be undertaken in the management."

The author then points out that the capitalistic point of view as to labor is utterly different from the peasant manager's point of view. In the former the value of the labor is measured in terms of money, in the latter it is measured only in terms of its usefulness. This explains the willingness of the peasant manager to work extraordinarily long hours in the harvest period because the value of getting the harvest in while it is in prime condition and the weather good is fully appreciated. On the other hand much of the so-called laziness among peasants may be explained by the current saying "the work is not worth the trouble." It is freely conceded that this "subjective" attitude towards work may be founded in wrong assumptions and may be a hindrance to the progress of peasant-management but it must be recognized that it is most unlikely that the peasant will ever be educated to a rational method of

management in a capitalistic sense "because the peasant-management psychology rests upon the physiologic symptoms of labor fatigue which have the effect of a natural law."

"Our opinion about the special position of the peasant-management is also supported by some other points. According to Liefmann the valuation of all expenses in money is a characteristic of the capitalistic enterprise. The attempt may be made and is being made to analyze the peasant-managements to the smallest detail. But even if such bookkeeping may be instructive and useful for conclusions in the line of agriculture, we must not forget that the whole accounting is artificial, because the most important factor, the working power of the peasant family, cannot possibly be valued in money. It is incorrect to believe that we may arrive at a money-expression for the family work, by comparing the wages actually paid to boys or day laborers. Peasant work cannot be bought, and therefore no market price can be given in the calculation. It seems very doubtful whether we may regard the work done in his own interest as expense, as we do with material expenses. Would it not be better as Tschajanow proposes, to regard the complete amount of labor as pure gain? We shall leave this question open."

The author proceeds with the argument that there are many goods raised and consumed in peasant-management which cannot be valued in money. As the final proof of the non-capitalistic character of peasant-management the author shows the impossibility of making a clear distinction between house economy and agricultural management and cites as an example the peasant wife whose household management and work outside the house are essentially one.

These discussions bring the matter to the point where a negative answer must be given to the question of the title. It is realized, however, that the definitions of terms offered by the author must be accepted if his proofs are to stand. It is also realized that peasant-management is a decidedly peculiar management which deserves an intensive, separate, scientific treatment. Peasant-management is a fundamentally different concept from that of the "enterpriser" or capitalistic management. It is not a question of size or degree but a difference in the organism itself.

TRANSPORTATION TO ANNUAL MEETING

Arrangements have been made with the New England, Central, Southeastern, Western, Southwestern, Trans-Continental, Trunk Line, and the Canadian (Eastern Lines) Passenger Associations to grant reduced rates to all members of the American Economic Association and the allied Associations, as well as to members of their families, provided 250 are in attendance at the annual meeting and present certificates.

The following directions are submitted and members wishing to take advantage of these reduced rates must comply with them:

1. OBTAIN A CERTIFICATE WHEN BUYING YOUR GOING TICKET.

Do not make the mistake of asking for a "receipt." Tickets at the regular one-way tariff fare for the going journey may be obtained on the following dates only—December 23 to 29, inclusive. Present yourself at the railroad station for ticket and certificate at least thirty minutes before the departure of your train. Certificates are not kept at all stations. If not obtainable at your home station, the agent will inform you at what station they can be obtained. You can in such case purchase a local ticket to the station which has certificates in stock, where you can purchase a through ticket and at the same time ask for and obtain a certificate to the place of meeting.

2. LEAVE YOUR CERTIFICATE AT REGISTRATION DESK (at the Washington Hotel) IMMEDIATELY ON YOUR ARRIVAL AT THE MEETING.

The reduced fare for the return journey will not apply unless your certificate is validated by the railroad agent and signed by the endorsing officer, Mr. F. S. Deibler, Secretary. A special agent of the railroad companies will be in attendance to validate certificates. If you arrive at the meeting and leave for home again prior to the special agent's arrival, or if you arrive at the meeting later than December 30, after the special agent has left, you cannot have your certificate validated and consequently you will not obtain the benefit of the reduction on the home journey.

3. CALL FOR YOUR VALIDATED CERTIFICATE BEFORE PURCHASING YOUR RETURN TICKET.

If the two hundred fifty certificates are presented to the special agent, and your certificate is duly validated, you will be entitled, up to and including January 3, 1928, to a return ticket via the same route over which you made the going journey, at one-half of the regular one-way tariff fare from the place of meeting to the point at which your certificate was issued.

Return tickets issued at the reduced fare will not be good on any limited train on which such reduced fare transportation is not honored.

Members are responsible for ascertaining whether or not the particular road they intend to use is included in this agreement. Some Passenger Associations grant the special rate with the exception of certain roads.

No refund of fare will be made on account of failure to obtain proper certificate when purchasing ticket, nor on account of failure to present validated certificate when purchasing return ticket.

TENTATIVE PROGRAM FOR THE ANNUAL MEETING AMERICAN FARM ECONOMICS ASSOCIATION, WASHINGTON, D. C., DECEMBER 28-30, 1927

WEDNESDAY, DECEMBER 28

MORNING SESSION, 9.45 A. M.

Business Meeting.

The Field of Research in Agricultural Economics—H. C. Taylor, Northwestern University.

Research in Farm Taxation—Eric Englund.
Discussion—F. P. Weaver, Penn. State College.

AFTERNOON SESSION, 2.00 P. M.

Research in Prices—John D. Black, Harvard University.
Discussion—O. C. Stine, Bureau of Agri. Economics, U. S. D. A.

Research in Farm Income—J. I. Falconer, Ohio State University.
Discussion—L. H. Bean, Bureau of Agri. Economics, U. S. D. A.

Research in Land Economics—L. C. Gray, Bureau of Agri. Economics, U. S. D. A.

EVENING SESSION, 8.00 P. M.

Round Table No. 1

Types of Economic Material and Methods of Procedure in Their Utilization in the Development of State or Regional Programs.
H. M. Dixon, U. S. D. A. in charge

Round Table No. 2

How Should the Agricultural College Student be Introduced to the Subject of Agricultural Economics: The Scope and Content of the Basic Group.

A. E. Cance, Mass. Agri. College.
W. I. Myers, Cornell University.
C. L. Holmes, Iowa State College.